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GOVERNMENT OF INDIA

RAILWAY DEPARTMENT

(RAILWAY BOARD)

REPORT

BY THE

RAILWAY BOARD

ON

INDIAN RAILWAYS

FOR

1938-39

Volume I

Published by Manager of Publications, Delhi
Printed by Manager, Government of India Press, Calcutta
1940

Price Rs. 6-10 or 10s. 6d.

Books and Technical Papers published by the Railway Board.

BOOKS.

(1) Report by the Railway Board on Indian Railways. Published yearly. Price—Volume I—Report, Rs. 5-12-0 or 9s. Volume II, Rs. 5-0-0 or 8s. (1937-38).

(2) Classified List of State Railway Establishment and Distribution Return of Establishment of all Railways. Published yearly. Price Rs. 1-12-0 or 3s.

(3) History of Indian Railways, constructed and in progress corrected up to 31st March 1933. Published quinquennially. Price Rs. 6-0-0 or 9s. 9d.

(4) History of Services of the Officers of the Indian State Railways. Published biennially. Price Rs. 20 or 31s. 6d. (Corrected up to 1st July 1937).

TECHNICAL PAPERS.

(5) Over 306 papers have been published by the Railway Board's office. The papers comprise :—

(a) Original descriptions of railway works and studies of railway problems in India and elsewhere.

(b) Reprints of articles from foreign engineering magazines.

(c) Reprints or abstracts of reports received by the Government of India on subjects connected with railways.

A complete list of the papers can be obtained *gratis* from the Chief Controller, Standardisation, Central Standards Office for Railways, Simla/New Delhi. A few of the more important Technical papers are mentioned below :—

Technical Paper.	*Name.*	*Author.*
No. 72.	The design of well foundations for bridges	(Compiled.)
,, 148.	Statistics of railway working expenditure	G. DEUCHARS.
,, 153.	River training and control on the guide bank system	F. J. E. SPRING.
,, 215.	The Hardinge Bridge over the Lower Ganges at Sara	SIR ROBERT GALES.
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,, 239.	The central control systems for the scheduling of operations in locomotive repairs workshops in England	H. H. SAUNDERS.
,, 242.	Railway Statistics and the Operating Officer	MAJOR F. H. BUDDEN.
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,, 245.	Report of the Indian Railway Bridge Committee on track stresses.	
,, 247.	1st and 2nd interim reports of the Indian Railway Bridge Committee on impact and revision of the Bridge rules.	
,, 249.	Operating Statistics and the Divisional Officer	MAJOR F. H. BUDDEN.
,, 250.	Axle-loads, wheel diameter and railheads dimensions.	
,, 251.	A. R. E. and maintenance of Way Association's Impact tests on Railway Bridges. (Reprinted.)	
	Description of the Planning, Progress, Coaling and Engine Repair, Schedule System, introduced on the G. I. P. Railway Loco. shops at Parel	F. G. S. MARTIN.
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,, 277.	Description of the Cost Accounting Scheme introduced in the locomotive workshops at Moghalpura	A. E. HOWELL.
,, 278.	Notes on Tube Railway Construction	H. G. SALMOND.
,, 279.	Report on Track Practice on American and Canadian Railways	A. F. HARVEY.
,, 280.	The Installation of a Production System in the locomotive workshops at Moghalpura	A. E. HOWELL.
,, 281.	The Belt System of Repairs introduced in the locomotive workshops at Kanchrapara	R. DE VERE IRWIN and J. R. POTTER.
,, 282.	Note on "Fridera"—A composition for reconditioning abrased spike holes in Railway Sleepers	S. KRISHNA and T. P. GHOSE.
,, 283.	Description of a system introduced in the Stores Department of the East Indian Railway, and Appendices	F. G. S. MARTIN and A. R. A. HARE DUKE.
,, 284.	Wagon Repairs—Notes on Progressive System of Wagon Repairs as introduced in North Western Railway Workshops at Moghalpura	B. S. SINDHU.
,, 285.	Note on the Methods by which the provisions regarding Rates and Fares embodied in the English Railways Act of 1921 were framed, both from the points of view of the Railway Companies and of the compilers of the Act	E. A. SIMS.
,, 286.	Stresses in Fishplates for 90 lbs. Rails (with conclusions affecting the design of Standard Rail and Fishplate Sections)	A. M. SIMS.
,, 287.	Report on Oil, Burners and Wicks for Signal Lamps	H. E. COX.
,, 288.	G. I. P. Railway Dynamometer Car Report No. 11—Train Resistance.	
,, 289.	The Hump Yard in India	MAJOR H. W. WAGSTAFF, M.C., R.E.
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,, 300.	Report on Investigation into modern methods of introducing transition curves economically into existing lines of Railway	R. H. MARTIN.
,, 301.	Note on reconditioning of curves	R. STRICK.
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,, 303.	Wear of Rails on curves and check rail clearances required on curves of 4° and sharper	A. M. SIMS.
,, 304.	Description of the method of Locomotive Repair as carried out in the Kharagpur Workshops of the Bengal Nagpur Railway	L. G. BAILEY, M. I. L. E.
,, 305.	Primary Stresses in Railway Tracks	W. E. GELSON, M. INST. C. E.
,, 306.	Creosoted Wooden Railway Sleepers (Ties) in India and elsewhere	C. W. SCOTT, O.B.E., D.F.C., B.Sc., I.F.S.

The prices of the papers vary from Annas Three to Rupees Fifteen.

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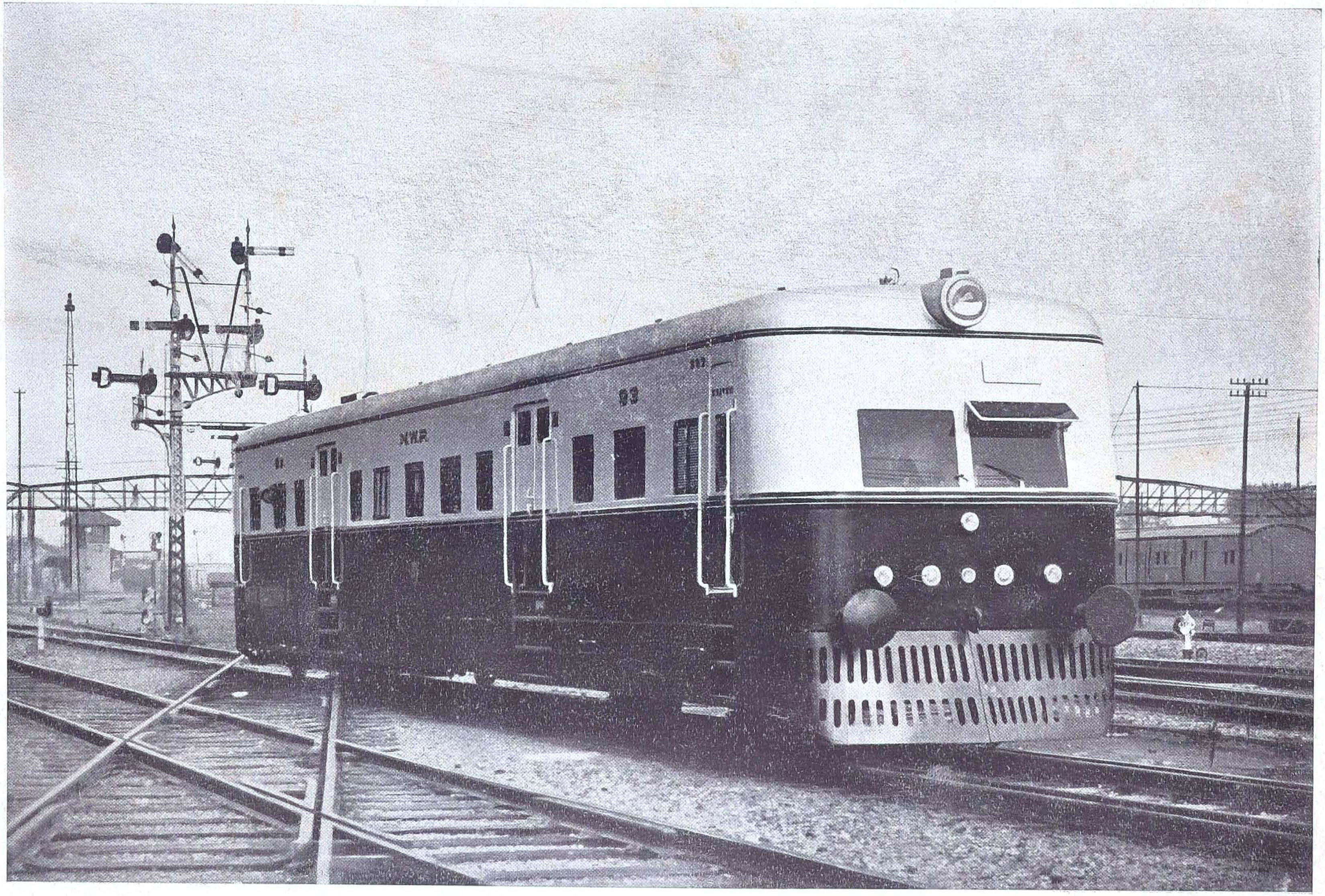
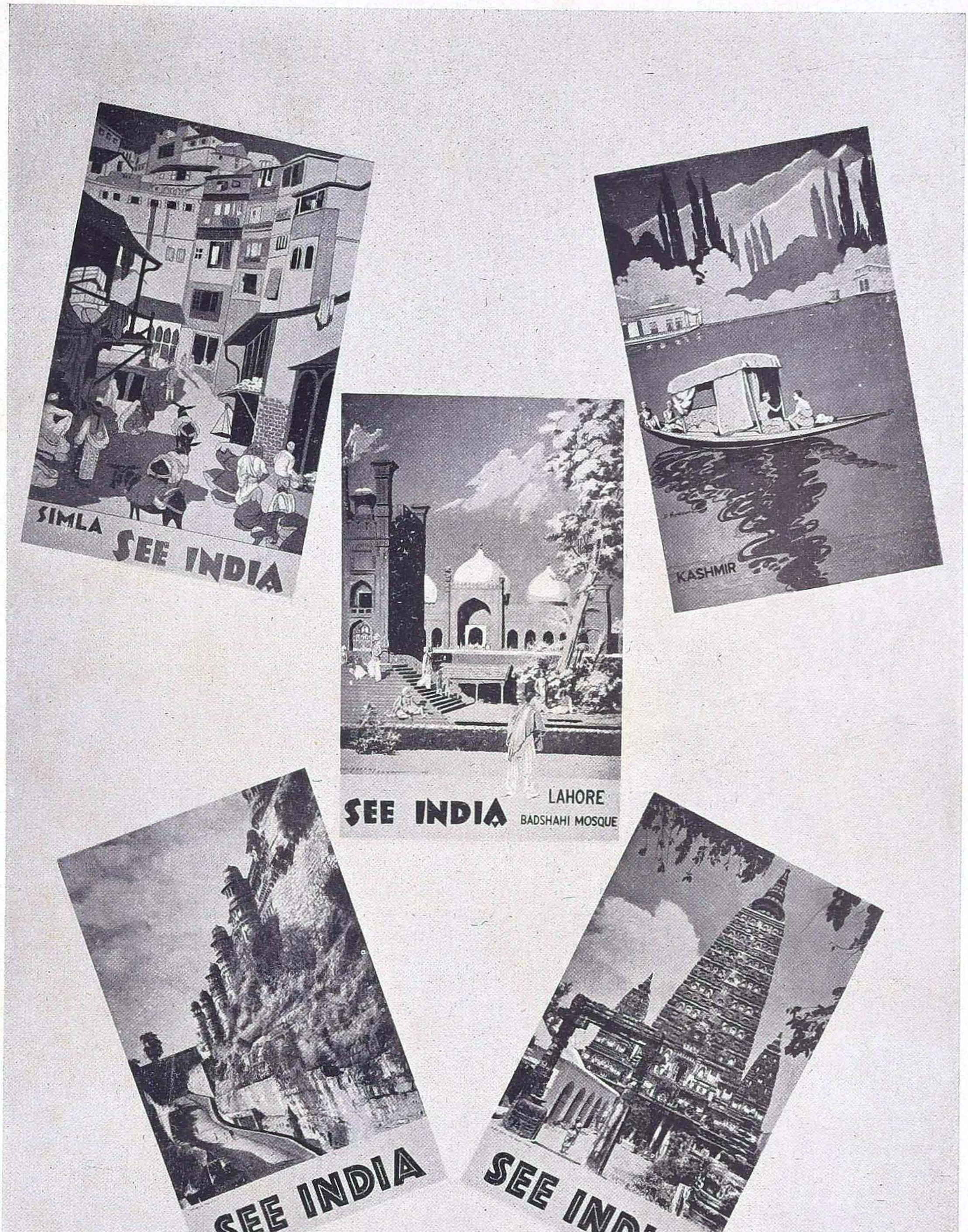
ILLUSTRATIONS



One of the 11 Third Class Diesel Rail Cars—(seating capacity 101 and maximum speed 55 miles per hour).

CENTRAL PUBLICITY BUREAU.



Samples of publicity posters.

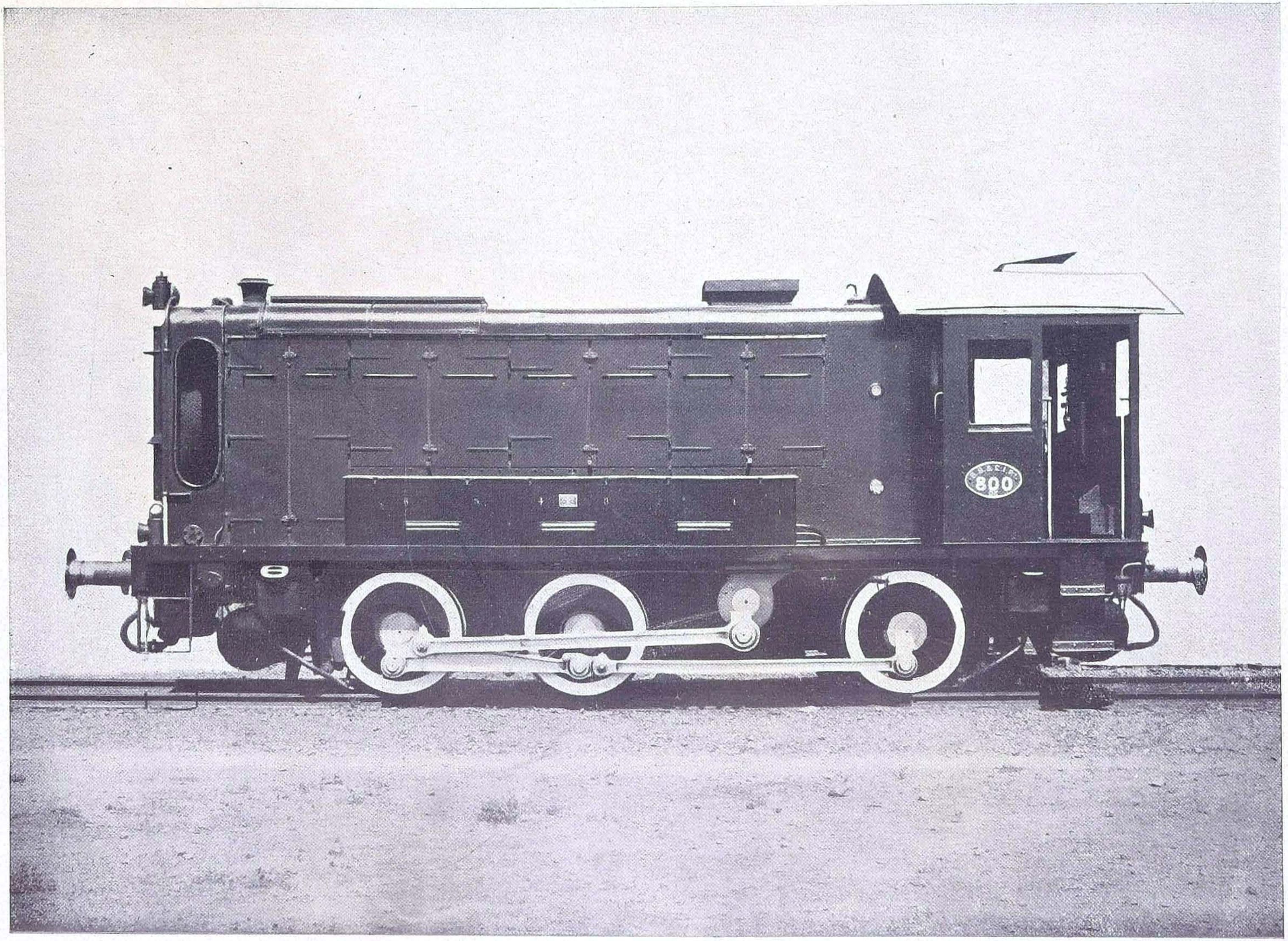
New Railway Central Offices—Mysore.

EAST INDIAN RAILWAY—Street Delivery Service.

Parcels Delivery Service.

Express Goods Service.

Goods Collection and Delivery Service.

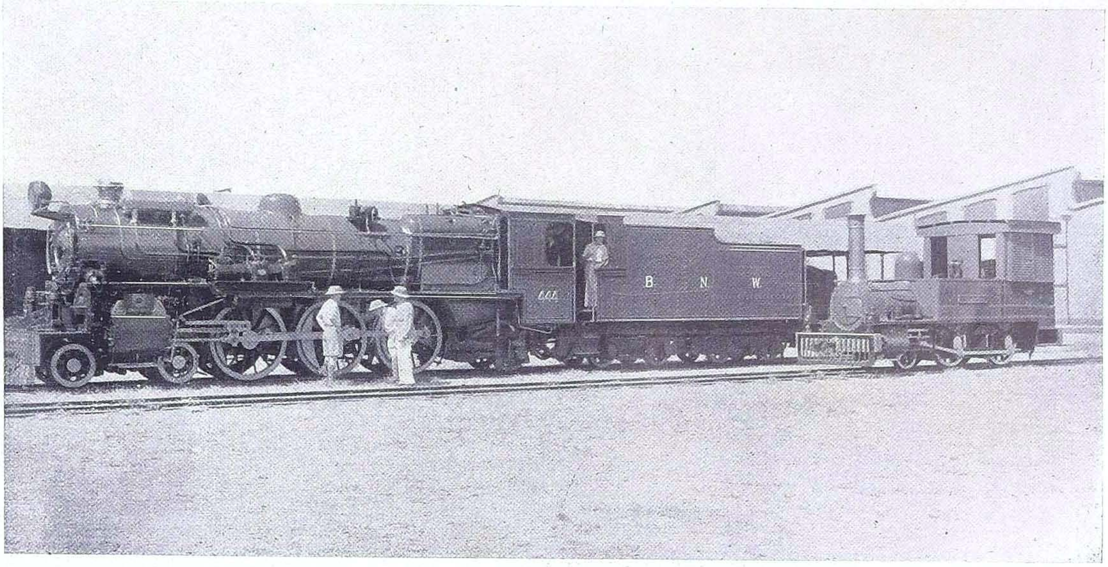


Diesel shunting engine in use at Bandra Marshalling Yard.

BENGAL AND NORTH WESTERN RAILWAY.

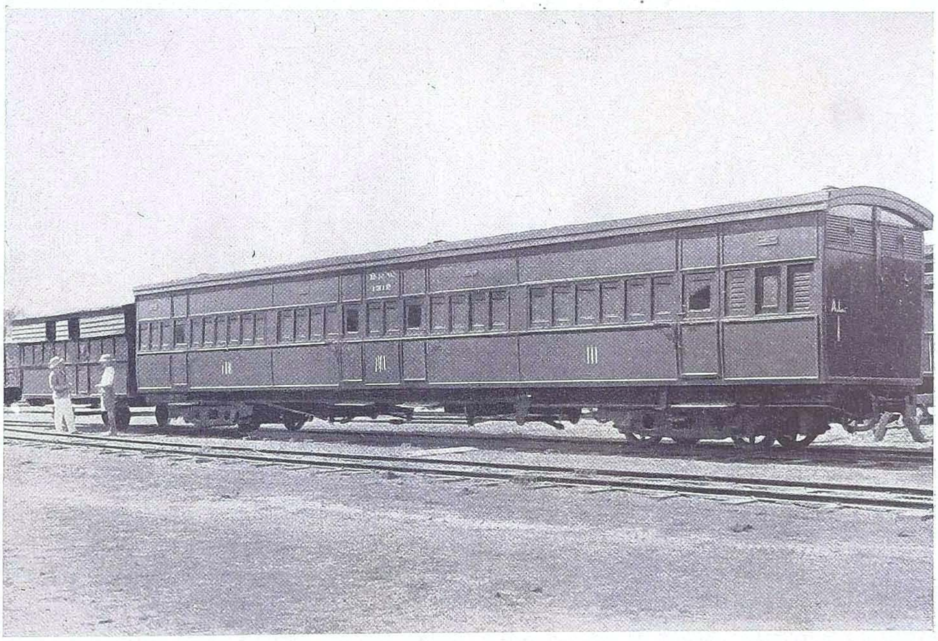
THE OLD AND THE NEW.

NEW ↓ OLD ↓

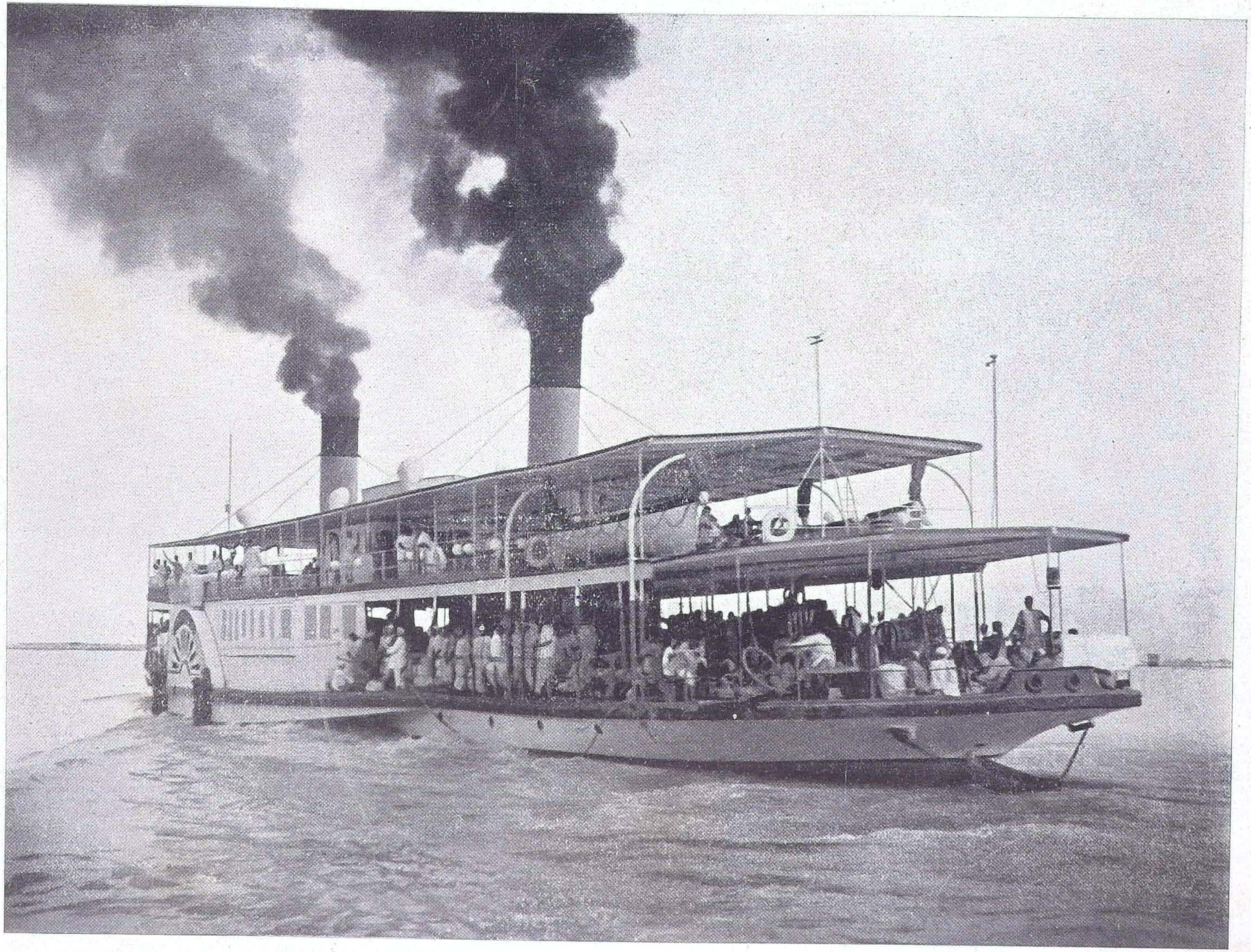


Engine No. 1 Lord Lawrence with a tractive effort of 3,857 lbs. put on line in 1874 and Engine No. 444 fitted with Caprotti valve gear, A.C. F. I. water heater and a tractive effort of over 16,000 lbs. put on line in 1938.

OLD ↓ NEW ↓



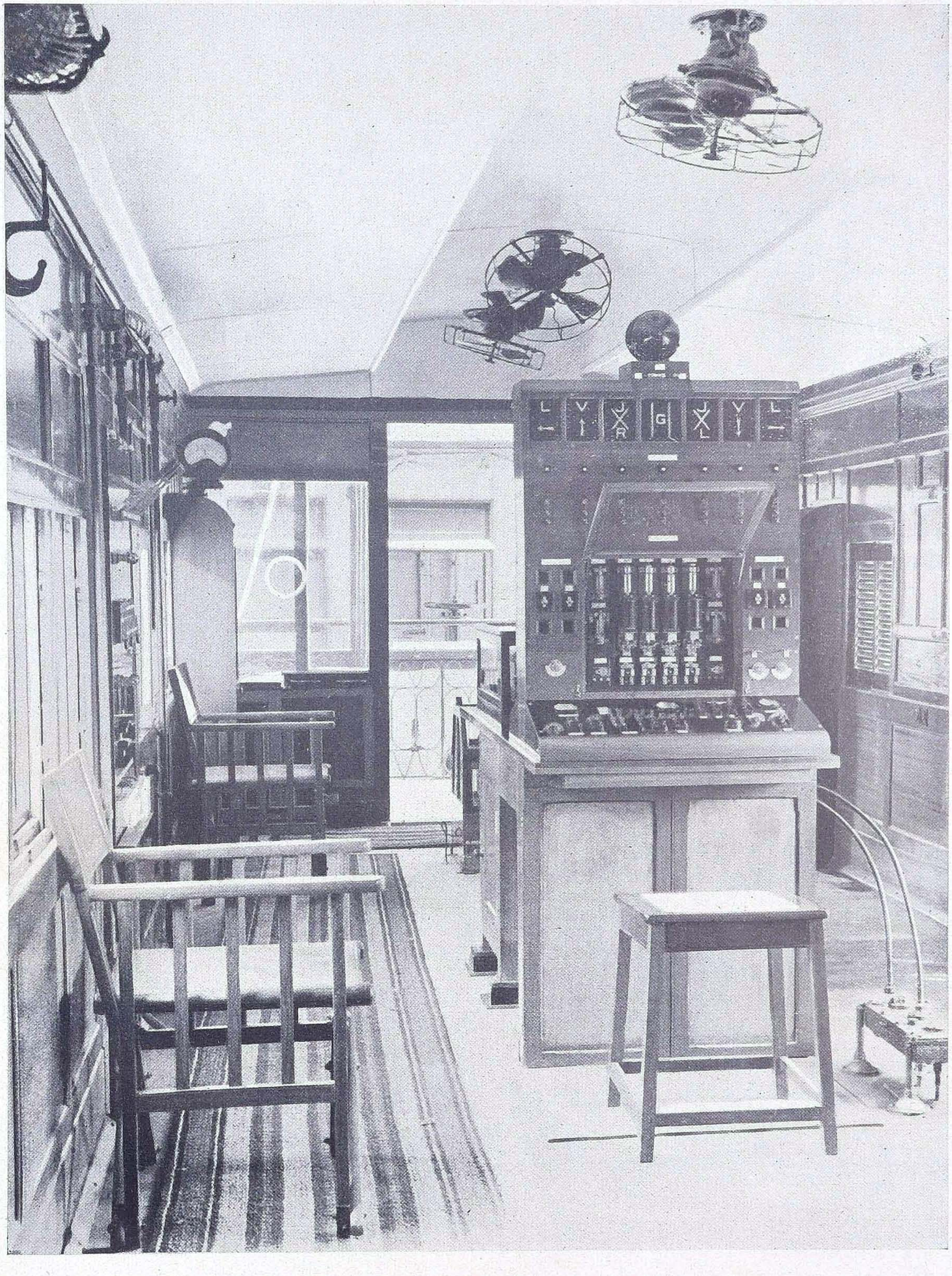
A third Class carriage put on the line in 1884 shown alongside one put in service in 1939. 1884 carriage seats 32 passengers, weighs 6 tons 15 cwts. and has no latrine. 1939 type seats 76 passengers on well sprung bogies, weighs 23 tons and has three latrines.



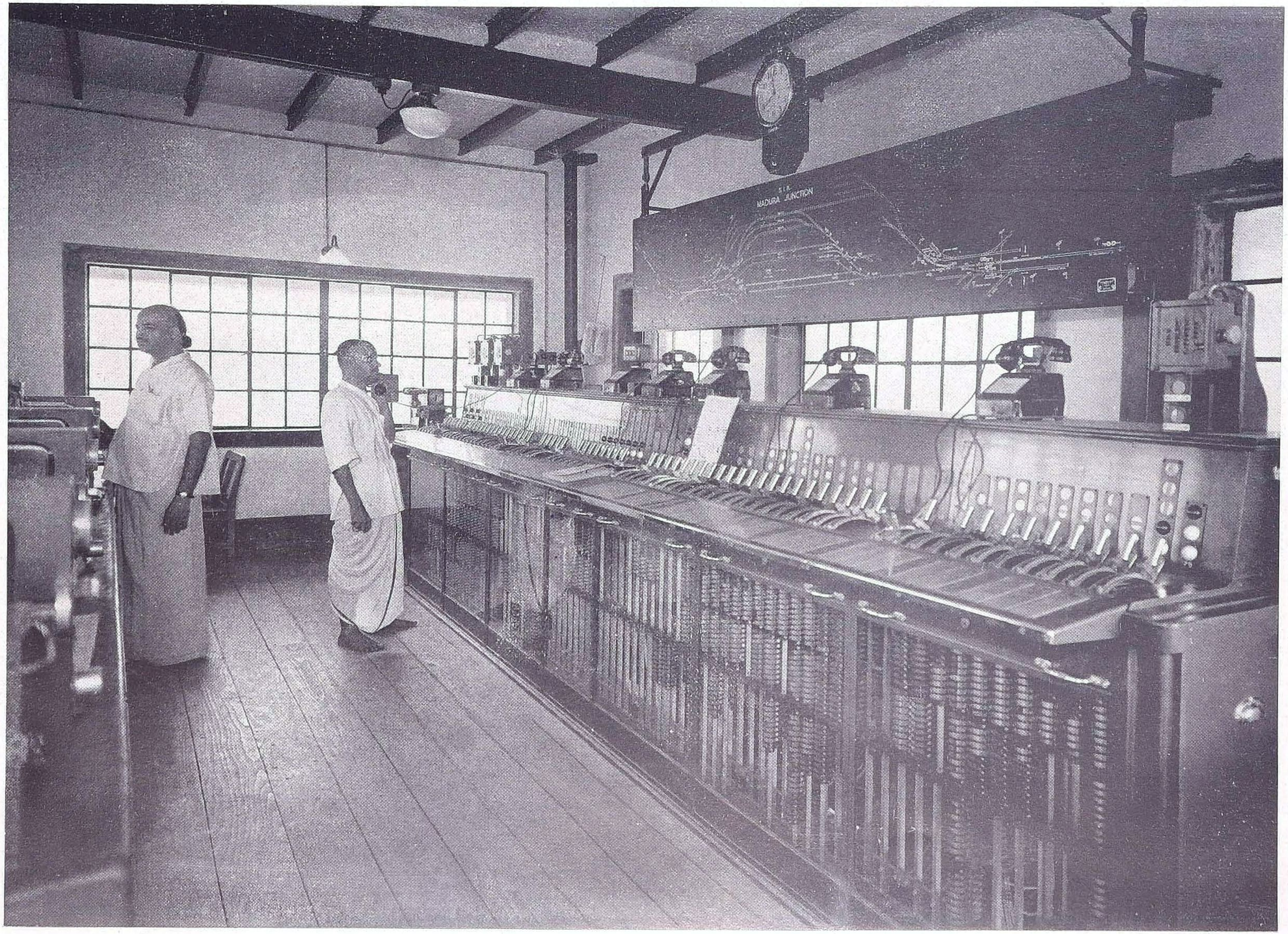
Ferry Passenger steamer 'Samastipur' crossing the Ganges from Mokameh to Semariah Ghat (500 tons with engines of 1,050 indicated horse power: put into service in 1929).

The effect of floods. Breach at Aie Bridge between Bongaigaon and Bijni.

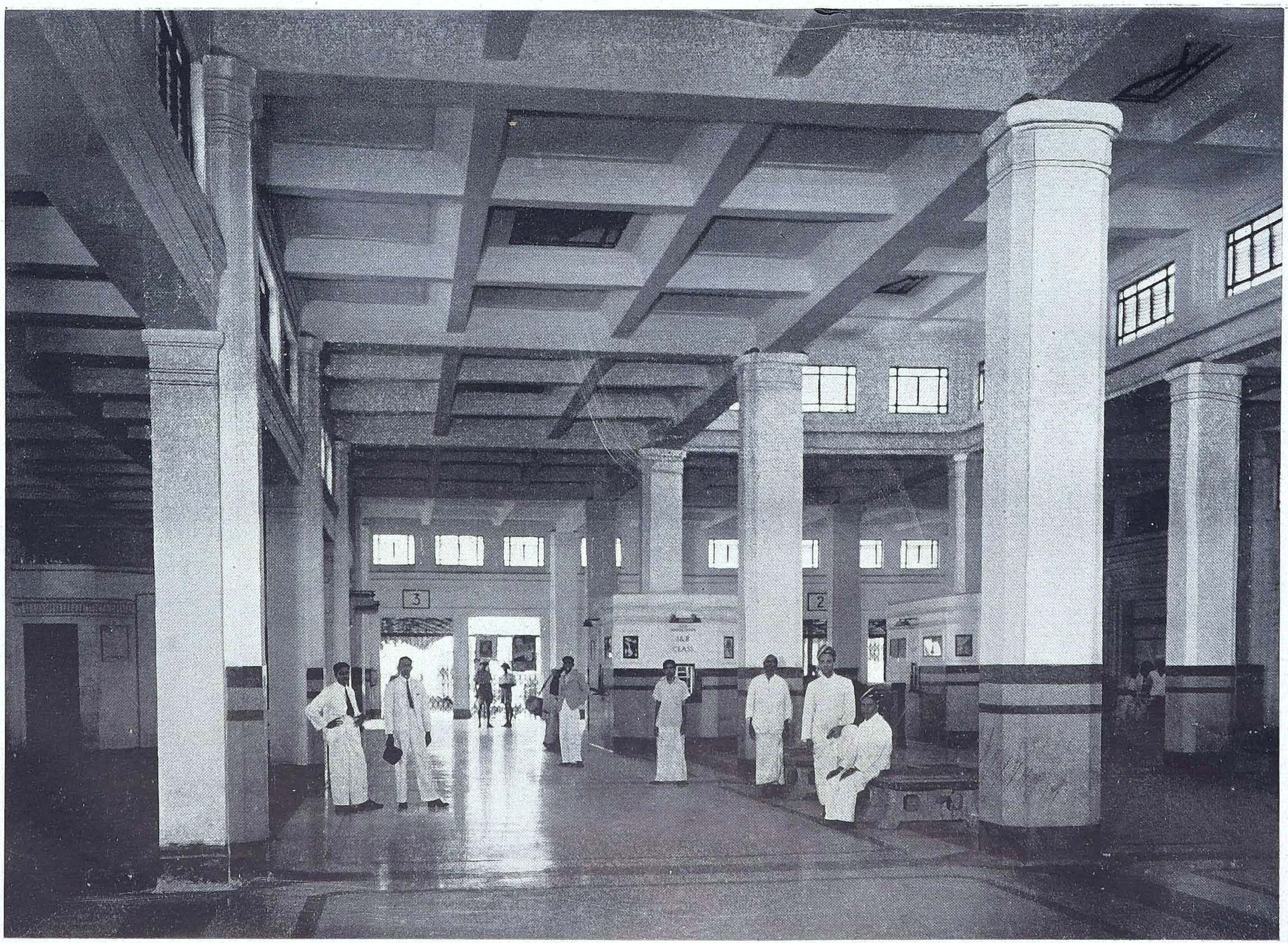
Welding standard length rails into lengths of 200 feet by the thermit process.



Interior of car used for recording inequalities in the track.



Madura Station. Interior of new power operated signal cabin.

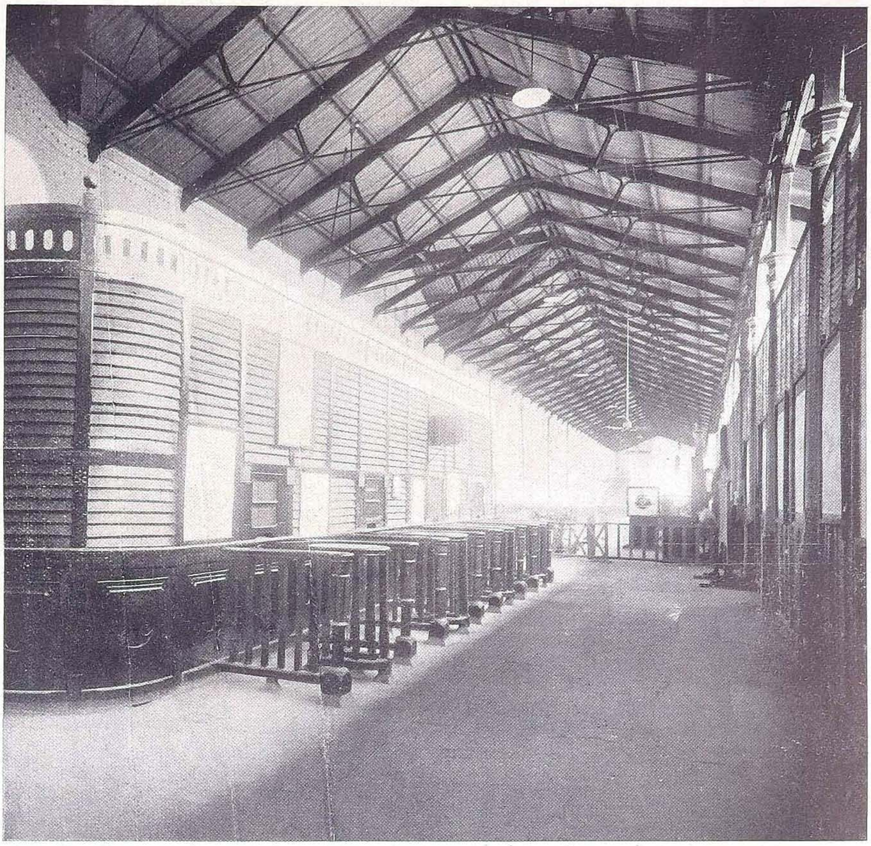


Madras Beach Station.

Howrah Station. Main concourse showing loud speakers used for disseminating information to passengers.

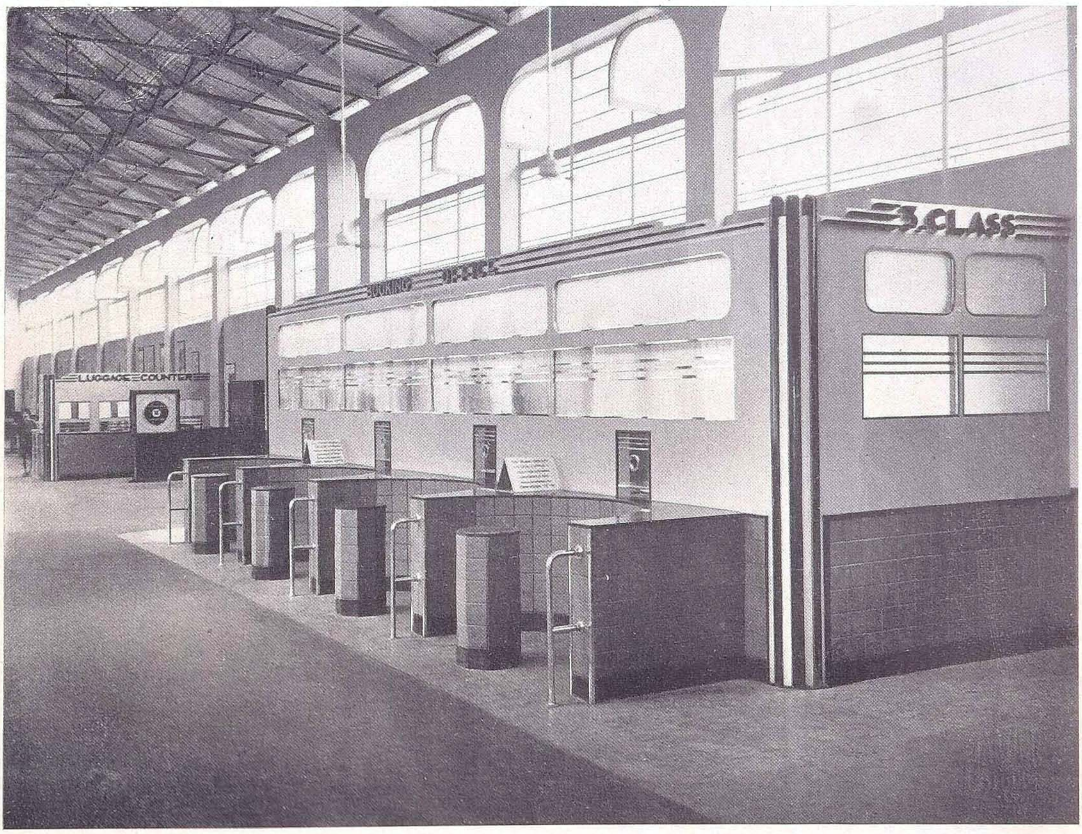
GREAT INDIAN PENINSULA RAILWAY.

Victoria Terminus.



AS IT WAS

The old booking offices in the 3rd class Waiting Hall.



AS IT IS

The new booking offices in the 3rd class Waiting Hall after remodelling.

GREAT INDIAN PENINSULA RAILWAY.

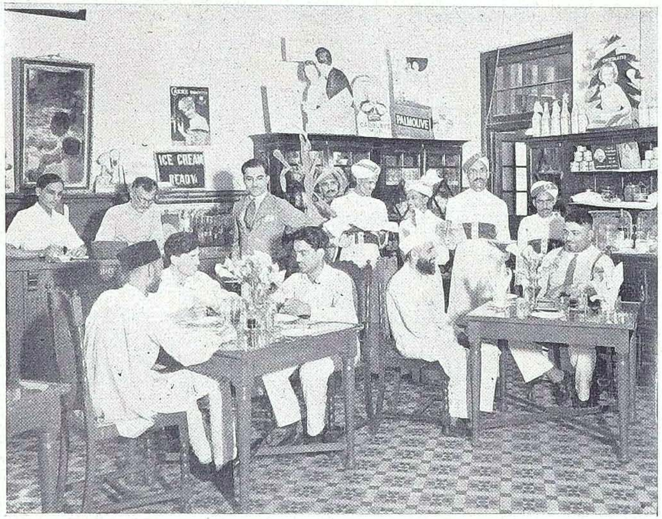
Victoria Terminus.

AS IT WAS

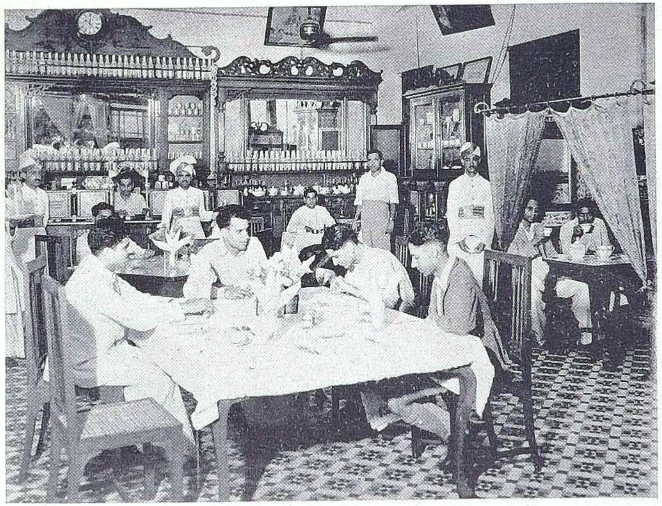
The old tea stalls in the 3rd class Waiting Hall.

AS IT IS

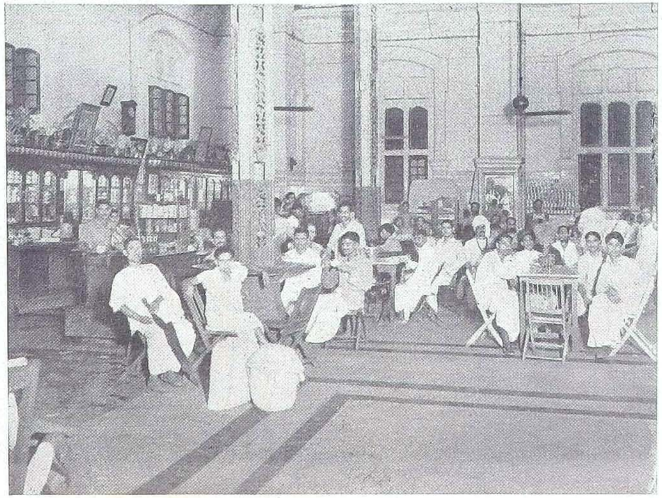
The new tea stalls in the 3rd class Waiting Hall after remodelling.



Lucknow—Mohammedan Refreshment Room.



Lucknow—Hindu Refreshment Room.

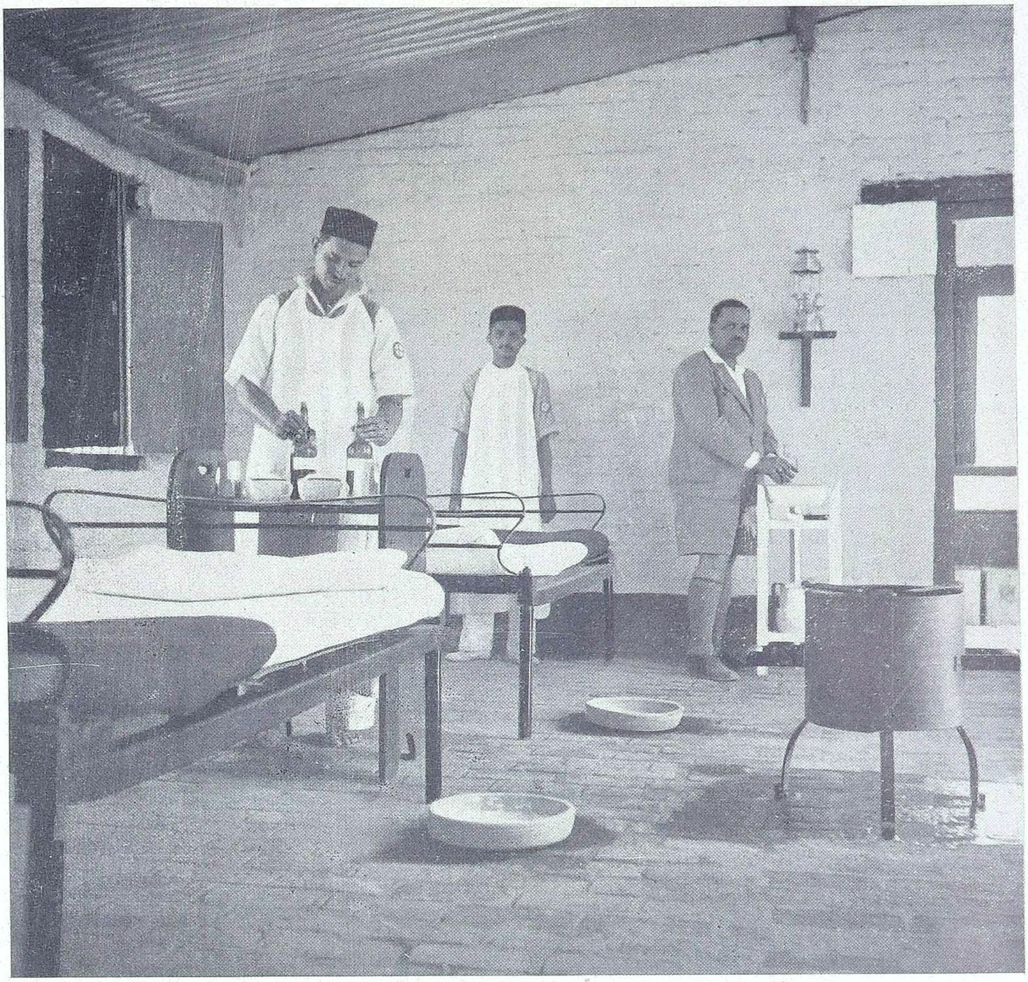


Howrah—Third Class Refreshment Hall.

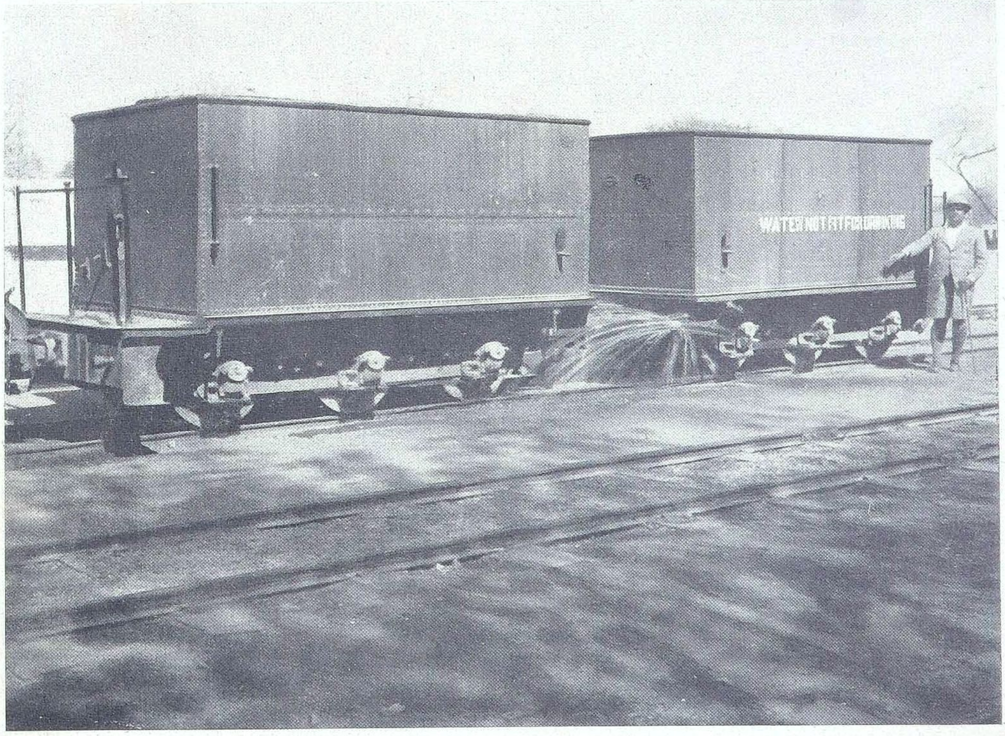
Lucknow—Tea and Toy Stalls in the Third Class Waiting Hall.

BOMBAY, BARODA AND CENTRAL INDIA RAILWAY.

Arrangements made for the Brindavan Fair.



Interior of a Cholera Isolation Hut (so well equipped as to elicit appreciative comments from the Health Authorities of the United Provinces Government).



Water Trucks (used for watering the unballasted track between Muttra Cantonment and Brindavan—a distance of 6 miles—to eliminate the dust nuisance).

Main statistics compared for four years.

I.—*All Indian railways (Classes I, II and III).*

Items.		1935-36.*	1936-37.*	1937-38.	1938-39.
Gross earnings	(crores) Rs.	100·23	104·37	107·57	107·15
Total Working expenses	(crores) Rs.	68·11	67·28	69·63	71·18
Operating ratio	Per cent.	67·95	64·46	64·73	66·44
Number of passenger originating	(millions)	483·13	489·61	521·28	530·62
Earnings from carriage of passengers	(crores) Rs.	29·64	29·37	31·08	30·73
Average earnings per passenger mile	Pies	3·22	3·17	3·17	3·15
Freight tons originating	(millions)	82·95	82·41	87·29	88·36
Earnings from carriage of goods	(crores) Rs.	62·19	67·33	68·66	68·57
Average earnings per freight ton mile	Pies	6·00	6·22	5·78	5·98
Total train miles	(millions)	176·14	181·73	192·20	197·04
Gross earnings per train mile	Rs.	5·67	5·72	5·57	5·40
Working expenses per train mile	Rs.	3·85	3·68	3·61†	3·58
Net earnings per train mile	Rs.	1·82	2·04	1·96†	1·82
Net earnings per mean mile worked	Rs.	7,700	8,911	9,043†	8,619

† Revised figures.

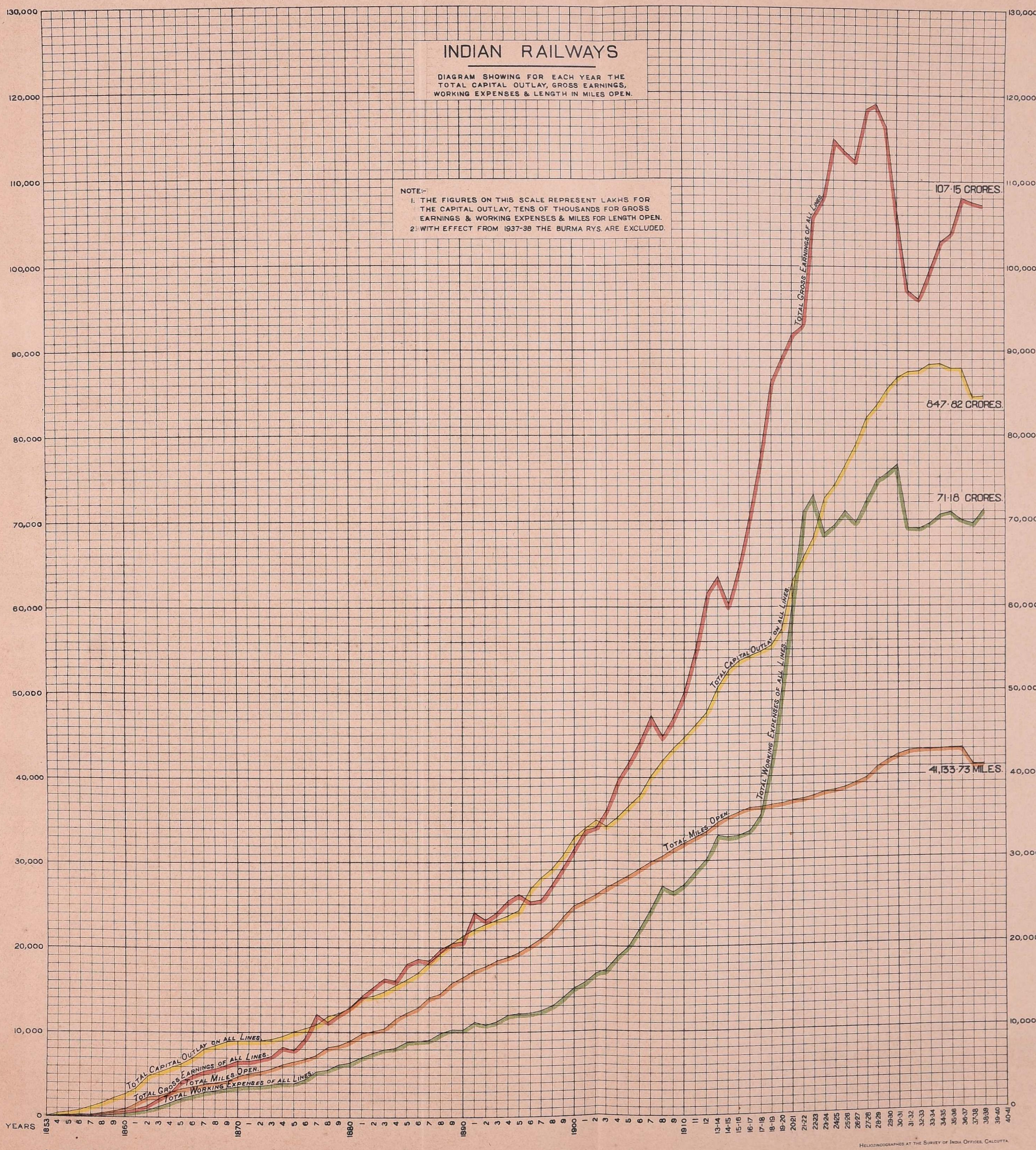
NOTE.—The figures of Gross Earnings, Working Expenses and Net Earnings for 1938-39 include the Jorhat Railway and replacement and renewal expenditure on the Bengal and North-Western and Rohilkund and Kumaon railways (Company's share) which items were omitted in previous years.

II.—*State-owned railway systems.*

(The figures include statistics of worked lines of State-owned railways but exclude State-owned portions worked by the Jodhpur and His Exalted Highness the Nizam's State Railways.)

Items.		1935-36.*	1936-37.*	1937-38.	1938-39.
Gross earnings	(crores) Rs.	93·32	97·14	99·83	99·07
Total Working expenses	(crores) Rs.	61·69	63·02	65·30	66·38
Operating ratio	Per cent.	66·11	64·88	65·41	67·00
Number of passengers originating	(millions)	437·28	443·10	471·18	477·97
Earnings from carriage of passengers	(crores) Rs.	27·04	26·72	28·27	27·89
Average earnings per passenger mile	Pies	3·18	3·13	3·13	3·11
Freight tons originating	(millions)	76·02	75·64	80·12	80·56
Earnings from carriage of goods	(crores) Rs.	58·45	63·31	64·33	63·95
Average earnings per freight ton mile	Pies	5·87	6·09	5·66	5·80
Total train miles	(millions)	161·23	166·00	175·53	179·05
Gross earnings per train mile	Rs.	5·76	5·83	5·66	5·51
Working expenses per train mile	Rs.	3·80	3·78	3·70	3·69
Net earnings per train mile	Rs.	1·96	2·05	1·96	1·82
Net earnings per mean mile worked	Rs.	9,179	9,966	10,082	9,613

* Excluding for purposes of comparison the Burma Railways which passed from the control of the Indian Government on 1st April 1937.



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INTRODUCTORY NOTE.

I. The Railway Board's annual report on Indian Railways is prepared for the financial year, *i.e.*, from 1st April of one year to the 31st March of the year following.

Volume I is a narrative report dealing with the various aspects of railway working such as general administration, financial results, improvements in, and additions to, rolling stock, improved operating methods, recruiting, training and welfare of staff and facilities provided for the convenience of the travelling public.

Volume II contains financial and statistical summaries and statements covering the main heads of capital and revenue accounts and the complete range of railway working.

II. For the information of those who are not conversant with the value of Indian currency and the units thereof, the following details are given :—

(*a*) One *lakh* equals one hundred thousand.

(*b*) One *crore* equals one hundred lakhs.

(*c*) One *anna* equals $\frac{1}{16}$th of a rupee.

(*d*) One *pie* equals 1/12th of an anna.

The approximate value in English coinage of a rupee at the present rate of exchange is one shilling and six pence.

III. For statistical purposes, Indian railway systems are classified as follows :—

Class I—Railways with gross earnings of not less than Rs. 50 lakhs a year.

Class II—Railways with gross earnings of less than Rs. 50 lakhs a year, but exceeding Rs. 10 lakhs.

Class III—Railways with gross earnings of not more than Rs. 10 lakhs a year.

(A detailed list of the railways in each class will be found in Appendix A of this volume).

It may in particular be noted that with effect from this financial year the Mysore State Railway has been included among the Class I Railways, that administration having taken over, with effect from 1st January 1938, the Bangalore-Harihar and the Hindupur-Yesvantpur (Mysore frontier) sections previously worked by the Madras and Southern Mahratta Railway.

The following is a brief synopsis of some of the major items of interest in this report, together with a reference, in each case, to the page in the report on which the details are given :—

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CHAPTER I.

GENERAL REVIEW.

1. Monsoon conditions and agricultural results.—In last year's report we stated that though there had been considerable industrial expansion in India, it was still primarily an agricultural country and for this reason the annual rainfall is of such importance that in a large measure it influences the prosperity or otherwise of the country. This being so, we again open with the main characteristics of the monsoon.

The monsoon of 1938 set in earlier than usual and was characterised by periods of heavy rains which caused floods in some parts. During this period the total rainfall was above the average in Bihar, the United Provinces east, Central Provinces, the Deccan, Madras east and Mysore, but defective in North-west India, particularly in the Punjab, Sind and Rajputana. The average rainfall in the plains during the advance of the monsoon was in excess of the normal by 6 per cent. but during the retreating period it was defective by 19 per cent. For the year as a whole the rainfall was within 20 per cent. of the normal except in the United Provinces east, Berar, Bombay and Deccan, and North Hyderabad where it was in excess and in the Punjab, Sind and Rajputana where it was very much in defect, with the result that certain areas suffered severely from a fodder famine.

From the agricultural aspect, the season was not particularly favourable. The variation in the main crops is as indicated below :—

Decrease :

Rice 12 per cent.—in spite of a slight increase in acreage. Excessive rains and floods in Bengal, Bihar, Assam and Bombay and failure of the North-east monsoon in Madras adversely affected the crop.

Sugarcane 24 per cent.—due mainly to reduced acreage. Moreover drought conditions in the Meerut, Agra and Rohilkund Divisions of the United Provinces, and in Madras and the Punjab, and excessive rains and floods in parts of the Benares and Gorakhpur Divisions, a few districts in Oudh and places in Bengal, reduced the output further.

Jute crop 23 per cent.—heavy rains and floods in Bengal, Bihar and Assam being responsible.

Cotton 11 per cent.—failure of the North-east monsoon in Madras, excessive rains and floods in the Deccan and Karnatak Divisions of Bombay, frost in Sind, as also failure of rains in the Punjab, Central Provinces and Berar and the Gujarat Division of Bombay, reduced the yield.

Sesamum 15 per cent.—due to drought in the United Provinces, Madras, Central Provinces and Berar and heavy rains in particular areas in Bombay and Bengal.

Groundnut 13 per cent.—due mainly to drought in Madras.

Increase :

Wheat 11 per cent.

Linseed 10 per cent.
Rape and mustard 6 per cent. } Winter oilseeds.

Castor seed—slightly improved yield.

2. Receipts.—The gross traffic receipts of State-owned railways for the year amounted to Rs. 94·48 crores as against Rs. 95·01 in 1937-38, a decrease of Rs. 53 lakhs. After meeting all charges including depreciation and interest on capital at charge, the net result of the year's working was a gain of Rs. 137 lakhs. This surplus was placed to the credit of the general

revenues of the Central Government in part payment of the contribution due from railways for 1938-39.

As compared with the previous year, the number of passengers and tons of goods carried on all Indian Railways increased while passenger miles and net ton miles declined due to the average haul of passengers and goods having fallen from 36 and 261 miles respectively in 1937-38 to 35 and 251 miles in 1938-39.

The earnings from passengers carried decreased from Rs. 31·08 crores in 1937-38 to Rs. 30·73 crores in 1938-39. 530·6 million passengers were carried in 1938-39 as compared with 521·3 millions in the preceding year or an increase of 9·3 millions. Passenger miles, however, decreased from 18,847 millions in 1937-38 to 18,743 millions in 1938-39.

The total freight tons carried increased from 87·3 millions in the previous year to 88·4 millions, but the earnings declined from Rs. 68·66 crores to Rs. 68·57 crores. Net ton miles also decreased from 22,777 to 22,159 millions. The average freight earned per ton per mile for all commodities increased slightly from 5·78 pies in 1937-38 to 5·98 pies.

3. Mileage.—109 new miles of line, of which 99 miles were located within Indian States and constructed at their cost, were opened during the year. There was, however, a decrease of 51 miles due to the closing of—

(i) the portion of the Agra-Bah section of the Great Indian Peninsula Railway lying between Hat-Shamsabad and Bah, comprising 32 miles,

(ii) the section of the Kangra Valley Railway between Baijnath Paprola and Jogindar Nagar, a length of 14 miles; and to

(iii) the lifting of ghat shifts on the Bengal and North-Western Railway, and

(iv) to some re-alignment on other railways.

The net increase in mileage was 58, the total route mileage at the end of the year being 41,134.

4. Railways and the Legislature.—Judging from the number of questions asked in the Council of State and the Legislative Assembly, it will appear that the members of the Indian Legislature continued to take an increasing interest in the working of the Railway Department. Out of a total number of 4,377 questions asked in both the Houses during the year 1938-39, 1,127 or 26 per cent. were answered by the Railway Department as compared with 861 or 25 per cent. during the previous year.

In addition to this large number of questions three resolutions were also discussed in the Council of State. These are referred to in the following paragraphs :—

4.1. Ways and means for increasing railways' contribution to general revenues.—A resolution was moved in the Council of State on the 20th March 1939 recommending that investigations should be made into the ways and means for increasing the contribution of railways to general revenues and also specially into the following methods :—

(*a*) construction of goods wagons in railway workshops;

(*b*) pooling of general service wagons of all State railways into one Indian State Railway stock and arranging for their repairs in the nearest railway workshop;

(*c*) abolition of the Railway Clearing Accounts Office; and

(*d*) imposition of cuts in the salary of the staff of the railway administrations running at a loss.

Government opposing the resolution explained as follows :—As regards the first method, it was explained that, according to the policy decided on in 1916, the Government guaranteed to purchase 2,500 broad gauge wagons and 500 metre gauge wagons annually for 10 years from Indian manufacturers. On this guarantee, a new wagon building firm, the Indian Standard Wagon Company was started and two firms, Messrs. Burn & Co. and Messrs. Jessop &

Co., invested large additional capital in plant, equipment, etc. So long as Government could get wagons in India at a reasonable cost, they did not propose to build wagons in railway workshops and put the Indian wagon building firms at a disadvantage. It was also explained that it was the policy of the Government of India to restrict the railway workshops to their primary function of dealing with the repair and maintenance of stock and equipment on railways as far as this could be done in consonance with economy in the working of the workshops. As to the second proposal, it was explained that, so far as traffic needs were concerned, the general service wagons of the broad gauge railways, were pooled. As regards the arrangement for their repairs in the nearest railway workshop, it was added that this could be confined only to wagons of certain types for which all railways were in possession of spare parts. As regards the third proposal, namely, the abolition of the Railway Clearing Accounts Office, it was explained that the centralisation of the work—which would have otherwise been done by individual railways—had resulted in economies and that any further economies to be effected should be, if possible, by the simplification of work in the Railway Clearing Accounts Office itself and not by its abolition. With regard to the fourth proposal, namely, the cut in pay of the staff of railway administrations running at a loss, it was stated that the Government were unable to discriminate between the railways earning a profit and those running at a loss. The motion was negatived without a division.

4.2. Construction of a railway between Ishurdi and Sadhuganj.—A resolution was moved in the Council of State on the 9th September 1938 by the Hon'ble Mr. Kumar Shankar Ray Chaudhury urging the construction of a railway line between Ishurdi, a station on the Eastern Bengal Railway and Sadhuganj or some place near it on the Brahmaputra, *viâ* Pabna.

In the course of his speech the mover traced the history of the project from its inception in 1910 and dwelt on the benefits to be derived from its construction, and as in his opinion existing conditions were more favourable for the construction of the railway than they were in 1925, when a traffic survey had shown the project to be unremunerative, he urged that a further investigation should be carried out. The Hon'ble Mr. Ramdas Pantulu supported the resolution.

Sir Guthrie Russell, Chief Commissioner of Railways, in opposing the resolution, explained that the project was definitely an unremunerative one. He pointed out that while it had always been subject to a certain amount of competition from river transport, the construction in recent times of a good metalled road between Ishurdi and Pabna had further impaired the prospects of the project and there were indications that the Provincial Government were not in favour of it. In the circumstances he pointed out that the Central Government could not reasonably be expected to add to the expenditure already incurred on investigations of this project. The resolution was withdrawn.

4.3. Bihta accident.—The report by the Honourable Sir John Thom on the cause of the railway accident near Bihta on the East Indian Railway on the 17th July 1937 was discussed in both Houses of the Legislature. In the Legislative Assembly this took place on the 12th August 1938 on a motion of the Hon'ble Member for Railways, Mr. (now Sir) A. G. Clow; and in the Council of State on a resolution by the Hon'ble Mr. P. N. Sapru, moved on the 15th of September. In the Legislative Assembly the Hon'ble Member for Railways referred to the fact that Government had accepted the recommendation of Sir John Thom that the design, the purchase and the continued purchase of XB engines should be the subject of a thorough searching and independent enquiry. He also said that Government had considered it desirable to extend the scope of this enquiry to the somewhat similar types of passenger engines known as the XA and XC classes and that they had asked the Committee to consider not merely the past but also the future. He further assured the House that the report of the Committee would be placed before them and that reasonable opportunity would be afforded for discussion.

Turning to the question of an improvement in these engines, the Hon'ble Member reminded the House that up to the Bihta accident XA, XB and XC class engines had covered 90 million miles without the loss of a single passenger's life. He admitted, however, that their running had not been altogether satisfactory and he outlined the measures that had been taken for their improvement.

On the question of measures taken—as a matter of precaution—pending the report of the Committee, the Hon'ble Member stated that all X class passenger engines on the Eastern Bengal, East Indian and Great Indian Peninsula Railways had been restricted to an absolute maximum speed of 45 miles per hour, resulting in the withdrawal of XB engines from mail and express services on two of these railways—there being no XB engine on the third—and that other railways had been directed to secure the imposition of a similar absolute maximum where any distortion of track had recently occurred. Actually restrictions had gone further than that, particularly on the Madras and Southern Mahratta and South Indian Railways.

In regard to individual responsibility, the House was assured that the matter was under close enquiry and that Government were determined to pursue fully the question of individual negligence. An assurance was also given that they would be advised of Government's conclusions on this matter.

Sir Guthrie Russell, Chief Commissioner of Railways, gave similar assurances in the Council of State, in reply to the resolution moved by the Hon'ble Mr. P. N. Sapru.

5. Railway Budget.—The Railway Budget for 1939-40 was presented to both Houses of the Legislature on the 13th February 1939, after it had been discussed in detail by the Standing Finance Committee for Railways in their meetings held on the 28th and the 30th January 1939. The general discussion of the budget took place in the Legislative Assembly on the 16th February 1939 and in the Council of State on the 18th February 1939. The voting on the demands for grants in the Assembly occupied four days, *viz.*, 20th, 21st, 22nd and 24th February 1939.

The general discussion on the budget covered a wide range of subjects, the more important of them being economy in working expenses, method of calculation of the contribution to the depreciation fund, stores purchase policy, loss on strategic lines, treatment of the staff on railways, the grant of passes, amenities for third class passengers, adequacy of the leave reserve in the various categories of railway establishments, transfer of subordinate establishment from one railway to another, road-rail competition, policy of Indianisation of railway services, over-crowding of trains, rating policy etc.

Of the motions for reduction made in the course of debates on the voting on demands for grants, nine token cuts were carried and one was negatived. The discussion on a cut of Rs. 70,000 pertaining to economy was not concluded owing to the time limit being reached on the last day allotted for the budget. The motions adopted related to Indianisation of higher services in railways, manufacture of locomotives in India, amenities of third class passengers, rates and freight policy, reduction in salaries, inadequate representation of Muslims in railway services, detailed administration and policy of Railway Board, provisions relating to enquiry into accidents and grievances of railway labour. The motion pressing for a long-range policy regarding railway finance was negatived on division after a full dress debate.

6. Standing Finance Committee for Railways.—During the year 1938-39, the Committee held meetings on ten occasions. They scrutinised, as usual, the proposals for expenditure to be incurred in the year 1939-40 both on capital and revenue account prior to their being placed before the Legislative Assembly, and examined and approved of proposals for the creation of certain superior posts on railways including the proposal for making permanent the temporary post of Joint Timber Advisory Officer, Railway and Defence Departments. The Committee also approved of the appointment of a Committee, at an estimated cost of Rs. 1 lakh, to enquire into the design, purchase and continued purchase of XB engines, as recommended

by Sir John Thom in his report on the accident near Bihta on the East Indian Railway. They further considered proposals for the purchase of the South Bihar and Hardwar-Dehra Railways and the proposal regarding the participation of the Madras and Southern Mahratta Railway in road motor services in the Madras Presidency. The Committee were informed that the legal bar which had hitherto precluded the Bombay, Baroda and Central India Railway's undertaking the construction of locomotives for other railways in India at the Ajmer Workshops had been removed. They expressed their appreciation of this step and approved of the Assam Bengal Railway's proposal to enter into commitments for the construction of 9 YB locomotives in that workshop.

7. Purchase of the South Bihar and Hardwar-Dehra Railways.—The South Bihar Railway, a broad gauge line 75·82 miles in length, was owned by the South Bihar Railway Company. It was constructed in 1899 and was worked by Government through the agency of the East Indian Railway Company up to 1905 for a proportion of its earnings. With effect from the 1st January 1906, the line was leased to Government for a yearly sum of £30,000. The purchase price was also fixed under the contract at £684,580. During the year under review the Government of India decided to purchase the railway for that fixed sum. The purchase was effected on the 30th June 1939.

The Hardwar-Dehra Railway, a broad gauge line, 32·04 miles in length, is owned by the Hardwar-Dehra Branch Railway Company and worked, maintained and stocked by Government through the agency of the East Indian Railway Administration for 50 per cent. of gross earnings. The Government of India have decided to purchase the railway on the 31st December 1939 at a price limited to 120 per cent. of the total capital expenditure incurred on the line up to the date of purchase, and the necessary notice of purchase has been issued to the Company.

8. Meetings with General Managers of Railways and Provincial Governments.—During the year under review the Railway Board held two meetings with the General Managers of the principal railways. The first meeting was held at Simla on the 7th October 1938 and the second at New Delhi on the 16th March 1939.

Several visits were paid by the members of the Railway Board to the headquarters of the various railway administrations and Provincial Governments. Copies of the tour programmes were sent in advance to the Press, Provincial Governments and important mercantile associations in order that an opportunity might be afforded them to express their views on matters of common interest and discuss problems affecting the railways and transportation generally.

9. Central Advisory Council for Railways.—Two meetings of the Central Advisory Council for Railways were held during the year 1938-39. The first meeting was held at New Delhi on the 9th April 1938 and the second at Simla on the 13th September 1938. The following subjects were discussed at these meetings with the results shown against each :—

Subject.	*Result of discussion.*
Nomination of members of the Central Advisory Council for Railways on the Local Advisory Committees.	Nominations were made after having been duly proposed and seconded. The Council also agreed that only those members residing within the area served by the railway should be considered eligible for election to that Railway's Advisory Committee.
Representation of Peasants' Organization on Local Railway Advisory Committees.	It was made clear that under the present constitution of the Committees there are representatives of the Provincial Governments who are particularly charged with the representation of the interest of rural areas and the travelling public. The Council were of the opinion that no further representation of such interests seemed necessary.

10. Local Railway Advisory Committees.—These committees which were first constituted in 1923 with the object of bringing railway administrations into closer touch with the requirements of "Trade" and the travelling public continued their useful work. The following list shows the railways on which these committees operate and the centres at which they meet:—

Railways.	*Centre.*	
Assam Bengal	Chittagong.	
Barsi Light	Kurduwadi.	
Bengal and North-Western	Gorakhpur.	
,, ,, (Bihar)	Muzaffarpur.	
Bengal Nagpur	Calcutta.	
,, ,, (Bihar and Orissa)	Calcutta.	
,, ,, (Central Provinces)	Nagpur.	
Bombay, Baroda and Central India	Bombay.	
,, ,, ,, (Ajmer)	Ajmer.	
Eastern Bengal	Calcutta.	
East Indian	Calcutta.	
,, (United Provinces)	Cawnpore Lucknow	Alternate meetings.
Great Indian Peninsula	Bombay.	
,, ,, (Central Provinces)	Nagpur.	
,, ,, (United Provinces)	Cawnpore.	
Madras and Southern Mahratta	Madras.	
,, ,, (Bombay Presidency)	Bangalore Cantonment.	
North Western	Lahore.	
,, (Sind)	Karachi.	
Rohilkund and Kumaon	Izatnagar.	
South Indian	Madras Ootacomund	Alternate meetings.

NOTE.—There is also a Local Advisory Committee on His Exalted Highness the Nizam's State Railway, which has its headquarters at Secunderabad, but particulars of the matters discussed by this committee are not included in the Railway Board's Quarterly Statement of Particulars of Local Advisory Committee Meetings.

The branch committee on the Bombay, Baroda and Central India Railway with headquarters at Ajmer was established during the year; the first meeting being held on the 14th February 1939.

A quarterly statement of the action taken on matters discussed at the meetings of these committees is published by the Railway Board and these statements show that a substantial proportion of the recommendations made are accepted. A wide range of subjects was discussed, of which mention may be made of the following:—

(*a*) facilities for passengers at stations—

(i) provision of additional booking offices, waiting rooms, enquiry offices, rest houses, retiring rooms, platforms, etc., at stations and improvements thereto;

(ii) opening of new stations;

(iii) improvements in the arrangements at stations for the greater convenience of passengers entraining and detraining; and

(iv) improvement of approach roads to stations;

(*b*) passenger stock—

(i) improvements to and cleanliness of coaching stock;

(ii) additional accommodation in trains;

(iii) extension of the use of air-conditioned coaches;

(*c*) train timings—

alterations in train timings, additional halts, additional trains, etc., to suit the requirements of the public.

(*d*) reduction of rates (for particular commodities) and fares—

(i) passenger fares, with particular regard to holiday concessions and return tickets at reduced rates;

(ii) rates for chemical manures, agricultural seeds, potatoes, sugar, sugarcane, seedlings, cuttings and plants, and wheat;

(*e*) railway catering rates, and general catering arrangements, including methods of allocating contracts, etc.;

(*f*) general—

(i) mela arrangements,

(ii) printing of time tables and tickets in Indian languages,

(iii) employment of lady ticket checkers,

(iv) supply of drinking water at stations,

(v) overcrowding in trains, and

(vi) provision of goods sheds and increase of accommodation at existing sheds.

Altogether 85 meetings were held during the year, the cost to railways in respect of fees, allowances and members' tickets over foreign railways being Rs. 24,000. This figure does not include other miscellaneous expenditure such as printing charges, etc., nor the value of free tickets issued over the "home" lines.

11. Railway Rates Advisory Committee.—Sir Zahid Suhrawardy continued as President and Rai Bahadur P. C. Bose as Railway Member and Secretary of the Committee.

At the beginning of the year, the following cases were pending with the Committee:—

(*a*) a complaint from Messrs. D. N. Sircar, S. K. Dass, Howrah, alleging that the Bengal Nagpur Railway was showing undue preference to the Tata Iron and Steel Company, Limited, Tatanagar, in regard to rates for Iron and Steel, Division B, by granting them a rebate off the published freight charges;

(*b*) the question as to whether the rating of coal by the Great Indian Peninsula Railway from stations in the Central Provinces coalfields for destinations between 251-400 miles distant caused undue or unreasonable preference or advantage within the meaning of Section 42 (2) of the Indian Railways Act (IX of 1890), and if so whether and how the preference should be removed;

(*c*) a complaint from the Rai Bahadur Narain Singh Sugar Mills, Limited, owners of a sugar factory at Baraut, alleging that the Shahdara-Saharanpur Railway had wrongly denied to them reasonable facilities in respect of forwarding and delivering their traffic and had wilfully neglected to provide wagons and locomotives necessary for its conveyance; and that it gave undue and unreasonable preference to the Upper Doab Sugar Mills, Limited, Shamli, in the matter of supply of wagons, freight charges and provision of siding platforms.

During the year, the following cases were referred to the Committee for investigation:—

(*d*) a complaint from the Upper Doab Sugar Mills, Limited, Shamli, Muzaffarnagar District, against the Shahdara-Saharanpur Light Railway, alleging that the rates on sugarcane booked to the mills, on molasses from the mills to Saharanpur and Delhi Shahdara and on sugar from the mills to Saharanpur and *viâ* and the siding charges levied on traffic carried over the mills' sidings were unreasonable and that reasonable facilities were

not afforded to the mills in the matter of supply of wagons for the carriage of sugarcane and molasses and in the matter of the time allowed for the loading and unloading of sugarcane;

(*e*) a complaint from Messrs. D. Abraham & Sons, Shipping and Clearing Agents, Bombay, against the Bombay, Baroda and Central India, East Indian, Great Indian Peninsula and North Western Railways alleging that the enhanced freight rate of Rs. 1-7-1 per maund for hides and skins in wagon loads from Delhi to Bombay, Karachi and Calcutta brought into force from 1st January 1938 was unreasonable;

(*f*) a complaint from the Federation of Baroda State Mills and Industries alleging that the special reduced rates granted by the Bombay, Baroda and Central India Railway from Bombay to Ahmedabad in respect of (i) paper, N. O. C., in bales or bundles, (ii) iron or steel, Division B, (iii) machinery, (iv) starch (*i.e.*, farina or sizing flour), (v) cotton, raw, full-pressed, (vi) cotton, raw, half-pressed and (vii) millboard or strawboard, were unduly preferential in relation to those for the same commodities from Bombay to Baroda and/or Petlad;

(*g*) a complaint from the Calcutta Flour Mills' Association alleging that the rates charged by the Eastern Bengal Railway for wheat flour from Calcutta stations to stations on that railway and on other railways reached *viâ* that railway, with the conditions of carriage attached thereto, were unreasonable *per se* and that the rates charged to their competitors with the conditions of carriage attached thereto were unduly preferential to the said competitors;

(*h*) a complaint from the Bengal Oil Mills' Association, Calcutta, alleging that the special rates charged by the East Indian Railway for mustard oil (in bulk) from Cawnpore, Agra, Hathras, etc., to Howrah, constituted undue preference of the United Provinces oil mills, that the existing rates for mustard seed from Cawnpore and other centres in the United Provinces to Calcutta were unreasonable and that the disturbance of the relativity between the rates for mustard seed and mustard oil had made the former particularly unreasonable;

(*i*) a complaint from the Bhima Ice Factory and Flour Mills, Cuttack, alleging that the existing rates charged by the Bengal Nagpur Railway, for wheat in full wagon loads from stations in the Central Provinces to Cuttack, were not only unreasonable, but also subjected the applicant to undue prejudice and disadvantage *vis-à-vis* Raipur.

The case under item (*a*) was withdrawn by the applicant.

In regard to item (*b*), the Committee came to the conclusion that the rating of coal by the Great Indian Peninsula Railway from stations in the Central Provinces coalfields for destinations between 251-400 miles distant constituted undue preference to the said coalfields within the meaning of section 42 (2) of the Indian Railways Act (IX of 1890) and recommended an enhanced scale of rates to remove the preference. The recommendation was accepted by the Government.

Item (*c*) was struck off the list as the applicant had shifted his mill from Baraut on the respondent railway's system to a place served by another railway.

In case No. (*d*), the parties came to a compromise on certain issues. On the remaining issues, the Committee found that the conveyance rate charged by the Shahdara-Saharanpur Railway on sugar from the applicant's mills at Shamli to *viâ* Saharanpur was not unreasonable, that the levy of a terminal charge at Shamli was not illegal and that the question of the siding charge

did not arise as no such charge was in existence at the time of the enquiry. The Committee held that no terminal charge was leviable at Saharanpur on through traffic and recommended that the terminal charge of 3 pies per maund be reduced to $1\frac{1}{2}$ pies. The Government accepted the Committee's recommendation.

The Committee's reports on cases (*e*) and (*f*) were under the consideration of the Government and the remaining three cases were still under inquiry by the Committee at the close of the year.

12. Steps taken to improve earnings.—An endeavour is made in the following paragraphs to indicate broadly the steps which were taken by railways to improve their earnings :—

(*a*) Measures taken by railways to counteract motor competition are detailed in paragraph 60 under Chapter IV.

(*b*) Railways continued to make alterations in rates and fares with a view to increasing revenue; details are given in paragraph 57 under Chapter IV. Special mention may, however, be made of the following :—

(i) Special 30 days return tickets at a fare of Rs. 13 for each adult and Rs. 6-8 for each child were introduced from Manipur Road on the Assam Bengal Railway to Nabadwip Ghat on the Eastern Bengal Railway, during the period January to April 1939, to encourage the Vaishnavite pilgrims of Manipur to visit Nabadwip, the chief centre of Bengal Vaishnavism, in larger numbers. These tickets allow the pilgrims to visit the neighbouring towns of Santipur and Krishnagar city, both hallowed by association from the pilgrim's point of view.

(ii) In view of the encouraging results obtained from the "Travel-As-You-Like" season tickets, the concession has been retained as a permanent feature on the Eastern Bengal Railway.

For the first time 3rd class "Zone Season" tickets were introduced by the Bombay, Baroda and Central India Railway from 21st July 1938 to 10th August 1938 and 11th to 31st October 1938.

(iii) Three additional standard round tours for first, second and third class passengers covering important places of historical, sight-seeing and religious interests have been introduced by the Great Indian Peninsula Railway to stimulate excursion and pilgrim traffic.

(iv) To attract a larger number of visitors and delegates to the Indian National Congress at Tripuri (near Madan Mahal) in March 1939, concession return tickets for all classes at $1\frac{1}{2}$ single journey fares were issued by the Great Indian Peninsula, Bombay, Baroda and Central India, East Indian, His Exalted Highness the Nizam's State and Madras and Southern Mahratta Railways (over the Madras and Southern Mahratta the basis of charge for 3rd class passengers was $1\frac{3}{4}$ single journey fares).

(v) First and second class cheap return tickets available for 30 days between Karachi and Bombay *viâ* Hyderabad, at special reduced fare on the North Western, Bombay, Baroda and Central India and Jodhpur Railways have been introduced in adjustment with fares by the sea route in order to divert the traffic to railway.

(c) *Green arrow registered transit system.*—A method of registered transit designated as "Green arrow registered transit system" has been introduced in local booking over the Eastern Bengal Railway system including stations on the Northern section of the Calcutta Port Commissioner's Railway, as also in through booking from stations on the Eastern Bengal Railway. The essence of the system is that for a registration fee of rupee one per consignment of any size or weight, goods and parcels are afforded the following additional facilities:—

(i) the consignment is continuously watched by a special organization called the "Green arrow cabinet", so that it is transported as quickly as possible;

(ii) the consignor or consignee can at any time ascertain the whereabouts of the consignment from the "Green arrow cabinet";

(iii) notices of arrival and intimations of delivery are promptly sent to the consignee and consignor respectively.

In through booking the special watch ceases with the transfer of the consignment to foreign railways.

A similar system known as the "Red arrow registered transit system" has also been introduced over the Bombay, Baroda and Central India Railway, applicable to goods consignments, booked from stations on the broad gauge in local booking and in through booking with foreign railways.

(d) Arrangements have been made in conjunction with Messrs. Cox & Kings for the through booking of consignments of:—

(i) tobacco from Eastern Bengal Railway stations to Rangoon;

(ii) sugar from Rohilkund and Kumaon Railway stations to Rangoon and Akyab.

(e) A detailed account of the steps taken by railways to facilitate the movement of traffic is given in Chapter IV. Special mention may, however, be made of the new system of road van services introduced on the Madras district of the South Indian Railway. By this system handling of "smalls" is eliminated at junctions and trains are arranged to leave in quick succession in all directions.

A similar service known as "Smalls quick transit service" has also been introduced over the East Indian Railway.

(f) Surprise checks continued to be carried out to detect cases of misdeclaration of goods and under-weighment of consignments—malpractices which inevitably result in a leakage of revenue.

13. Steps taken to reduce expenses.

13.1. Job Analysis.—Job analysis, which was alluded to in paragraph 12 of last year's report and which involves a detailed financial scrutiny of a particular item of railway activity with a view to the reduction of its cost, was continued on both State and Company managed railways. The table appearing on the next page shows for the six years ending 1938-39, the economies effected on each of the more important railways and the cost of the organisation conducting the investigations.

Railway.	1933-34.		1934-35.		1935-36.		1936-37.		1937-38.				1938-39.				Savings effected since the introduction of Job analysis to the end of 1938-39 (Recurring only).
	Cost of Job analysis organization.	Savings effected.	Cost of Job analysis organization.	Savings effected.	Cost of Job analysis organization.	Savings effected.	Cost of Job analysis organization.	Savings effected.	Cost of Job analysis organization.	SAVINGS EFFECTED. Recurring.	SAVINGS EFFECTED. Non-recurring.	SAVINGS EFFECTED. Total.	Cost of Job analysis organization.	SAVINGS EFFECTED. Recurring.	SAVINGS EFFECTED. Non-recurring.	SAVINGS EFFECTED. Total.	
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
East Indian . .	77,691	7,01,128	92,884	18,14,544	1,13,541	5,82,459	93,009	5,60,700	1,07,773	2,07,512	6,88,256	8,95,768	1,10,553	1,75,595	4,03,988	5,79,583	21,61,589
Great Indian Peninsula	56,680	4,15,000	64,000	2,04,246	53,574	2,04,859	19,554	9,69,224	17,673	2,29,137	6,745	2,35,882	23,807	44,160	..	44,160	29,75,733
North Western .	32,000	12,66,749	46,006	12,37,376	56,729	7,22,202	40,056	33,35,092	60,855	4,09,358	23,16,748	27,26,106	65,760	3,70,991	21,32,835	25,03,826	40,63,225
Eastern Bengal .	63,000	2,17,864	65,995	1,29,508	26,134	41,600	25,969	1,17,152	40,527	2,89,015	*Nil*	2,89,015	62,279	46,848	7,080	53,928	5,25,652
Bombay, Baroda and Central India.	58,789	3,52,862	35,300	11,41,596	3,643	2,25,682	247	8,27,666	4,516	3,04,663	1,526	3,06,189	1,177	4,77,972	..	4,77,972	26,44,314
Madras and Southern Mahratta.	8,750	45,220	17,632	1,14,000	4,920	2,56,000	120	1,94,852	10,766	33,137	51,959	85,096	13,645	51,195	40,036	91,231	6,79,539
South Indian . .	19,580	27,400	2,180	25,000	221	8,463	504	7,585	6,530	7,799	9,812	17,611	10,446	18,694	4,341	23,035	67,569
Burma . . .	7,500	25,871	26,615	73,352	..	77,591	..	..	..	..	..	..	..	..	..	..	..
Assam Bengal . .	12,825	1,31,755	8,208	12,659	1,490	..	7,065	24,146	3,966	4,025	..	4,025	27,994	88,232	1,751	89,983	1,92,899
Bengal Nagpur .	..	..	..	..	17,575	13,68,493	2,617	66,330	9,475	20,634	12,680	33,314	..	56,235	672	56,907	7,83,070

It may be of interest to mention some of the particular items examined either in the course of the job analysis investigation or as a result of steps taken in other directions to reduce expenses.

13.2. Transportation—

(i) In the past the Assam Bengal Railway marshalled trains on their branch lines with the brake-van in rear. This necessitated re-marshalling at the end of every run, but where sufficient time for shunting was not available for this purpose trains were formed with a brake-van at each end. As an experiment it was decided, on one branch, to marshal the brake-van in the centre. The system proved successful and was extended to other branches. By this means eight four-wheeled brake-vans were released from trainrakes with a saving of 214,300 vehicle miles and of 1,858 shunting hours. The system was introduced on different dates throughout the year and the saving in vehicle and shunting mileage throughout a year will be much greater.

(ii) Last year it was mentioned that a detailed analysis of the passenger train services showed that on some railways, by re-organisation, a considerable saving could be effected. This examination was continued and as an instance it may be mentioned that the South Indian Railway were able to effect a reduction of 830 train miles per diem.

(iii) A careful examination was made of the occupation of upper class stock, as a result of which on some branches upper class stock was abolished altogether and on some main line services it was reduced; the spare "Train room" accommodation being utilised when desirable for vehicles of other classes.

(iv) The method of handling "Smalls" consignments in transit between different railways was further examined resulting in more economy. For example, on the North Western Railway some 20 transit sheds were wholly or partially closed. On the Bombay, Baroda and Central India Railway the number of transhipments was reduced on the broad gauge from an average of about 7,340 a month to 2,590 and on the metre gauge from an average of 6,600 to 3,600 (in March). On that railway also some transhipment sheds were entirely closed.

(v) The standardisation of uniforms and of stationery and forms, together with a careful check on consumption of the latter, effected a further reduction in expenditure on several railways. For instance, the North Western Railway estimate that they saved approximately Rs. 79,000 by a careful analysis of requirements and some Rs. 7,500 by return of surplus stock as a result of inspection and that the expenditure on printing was reduced by Rs. 12,500 by standardisation, the adoption of more economical sizes, and by the utilisation of paper previously regarded as waste.

13.3. Engineering—

(i) The introduction of enamelled in place of painted notice boards, with white lettering on black background, is estimated to effect an annual saving of Rs. 3,500 on the East Indian Railway.

(ii) Similarly the use of scrap boiler tubes for the manufacture of fencing in place of ordinary palisade fencing on the above railway is estimated to save over annas eight per lineal foot.

(iii) The Great Indian Peninsula Railway adopted the extensive re-pressing of fish plates to extend the life of rails without cropping rail ends.

(iv) The increase of certain gang lengths on the Jodhpur Railway is expected to effect a saving of Rs. 10,000 a year.

(v) On the Madras and Southern Mahratta Railway the system of maintenance of permanent-way by ' mobile gangs ' was extended to six more sections. In this system a gang is equipped with a light trolly which enables it to cover a greater area with equal efficiency.

(vi) On the North Western Railway a trial of the maintenance of track by the " Spot " renewal system of sleepers was continued on two divisions but it was not possible to gauge its effect during the year.

Composite sleepers made with cuts from sleepers and old tie bars were used for casual renewals of sleepers in yards; and to reduce the cost of treating sleepers, experiments were carried out with sleepers treated with different preparations of fuel oil and creosote.

13.4. Mechanical and Electrical.—Railways continued to strive to obtain greater availability and increased utilisation of existing locomotives and rolling stock during the year under review. On the East Indian Railway a further tightening up of engine links enabled certain services to be operated with less engines and the remodelling of Moghalsarai running shed with a view to providing facilities for the more intensive use of passenger engines was taken in hand. It is anticipated that this scheme will eventually enable existing services to be operated with 29 less engines. A similar scheme for concentrating both goods and passenger engines at Cawnpore has been developed during the year. On the Bengal Nagpur Railway the inauguration of an internal transport scheme in Kharagpur workshops enabled the engine repair schedule to be reduced from 22 to 20 days and has resulted in two extra engines being placed at the disposal of the Running Department. The more intensive use of coaching stock on the Madras and Southern Mahratta Railway has enabled a number of units to be withdrawn from normal service.

The policy of scrapping without replacement wherever possible resulted in further reductions in stock on the Great Indian Peninsula, North Western and Assam Bengal Railways. On the North Western Railway capital at charge has been reduced by a further Rs. 15·94 lakhs by the scrapping of six locomotives, seven boilers, 157 coaching units and 90 goods units without replacement. An annual saving of Rs. 12,500 was also effected by the scrapping of surplus wagons on the Assam Bengal Railway.

On the East Indian Railway progress was made with the introduction of the scheme for concentrating running maintenance of goods stock at certain " key " stations. This scheme will enable certain existing sick lines to be closed and others to be reduced in status and when finally established will, it is estimated, make approximately 150 more wagons available for loading daily. The functions of the train examining centres at Kundian, Ferozepore, Ambala and Khanewal on the North Western Railway were also considerably reduced thereby resulting in a saving of 55 per cent. of the staff employed at these stations.

With the introduction of " Single Control " working at Tangi, a junction between the Assam Bengal and Eastern Bengal Railways, with effect from 1st July 1938, considerable economies have been effected on both railways and the scheme is being adopted permanently. Economies effected by the introduction of ' Single Control " working at Raichur, Juhi, Agra Cantonment and Allahabad by the Great Indian Peninsula Railway have been maintained and " Single Control " working was extended to Chheoki during the year.

The system of engine cleaning by contract on the Eastern Bengal Railway reached one more stage when Narculdanga shed was embraced. A saving of approximately Rs. 4,000 annually has been effected thereby.

The replacement of the old power house plant of the Bengal Nagpur Railway at Kharagpur by modern turbo-alternator and boiler plant has resulted in fuel savings approximately Rs. 1,03,000 per year and 1·3 million gallons of water per month.

On the East Indian Railway the use of scrap axles in place of purchased steel billets and the reconditioning of manganese bronze axle-boxes were continued with further material savings. Economies were also effected on the South Indian Railway by the use of a disinfectant prepared in the Main Stores at Negapatam in lieu of a proprietory brand and by the purchase of phosphor bronze refined from the railway's scrap instead of manufacturing the same from virgin metals in the railway's workshops.

CHAPTER II.

FINANCIAL RESULTS.

A.—*Trade Review.*

14. The prosperity of the Railways depends to some extent on the fluctuations of India's trade with other countries. The details of such fluctuations may be seen from the following two tables showing exports and imports of principal commodities.

14.1. Exports.—During the year 1938-39, the total value of exports including re-exports amounted to Rs. 169 crores, as compared with Rs. 189 crores in the preceding year, a decrease of Rs. 20 crores or 10·6 per cent. The following table shows the fluctuations in important commodities :—

NOTE.—As a result of the separation of Burma, the trade statistics for 1937-38 and 1938-39 given in this table include the trade of British India with Burma and exclude the direct trade of Burma with foreign countries. Figures for 1936-37 have been adjusted as far as available data permit, so as to represent British India excluding Burma.

Commodity.		QUANTITY (IN THOUSANDS).					VALUE.				
		1936-37.	1937-38.	1938-39.	1938-39 compared with 1936-37.	1938-39 compared with 1937-38.	1936-37 (crores).	1937-38 (crores).	1938-39 (crores).	1938-39 compared with 1936-37 (lakhs).	1938-39 compared with 1937-38 (lakhs).
							Rs.	Rs.	Rs.	Rs.	Rs.
Raw Jute	Bales	4,595	4,185	**3,866**	—729	—319	14·77	14·72	**13·39**	—1,38	—1,33
Metals and ores	Tons	1,450	1,904	**1,509**	+59	—395	3·68	6·13	**4·91**	+1,23	—1,22
Pig iron	,,	574	629	**514**	—60	—115	1·29	2·60	**2·56**	+1,27	—4
Manganese ore	,,	677	1,001	**456**	—221	—545	1·31	2·21	**1·07**	—24	—1,14
Jute cloth	Yds.	1,710,021	1,643,082	**1,545,576**	—164,445	—97,506	15·50	15·37	**13·30**	—2,20	—2,07
Hides and skins	Tons	63	75	**59**	—4	—16	11·01	11·49	**8·60**	—2,41	—2,89
Indian raw wool	Lbs.	51,897	37,989	**55,416**	+3,519	+17,427	2·86	2·65	**2·99**	+13	+34
Jute bags	No.	620,538	612,260	**598,436**	—22,102	—13,824	13·19	13·17	**12·46**	—73	—71
Food grains	Tons	621	878	**742**	+121	—136	6·57	9·49	**7·74**	+1,17	—1,75
Wheat	,,	235	460	**279**	+44	—181	2·11	4·62	**2·48**	+37	—2,14
Barley	,,	10	35	**9**	—1	—26	0·06	0·29	**0·08**	+2	—21
Wheat flour	,,	50	62	**61**	+11	—1	0·70	0·89	**0·78**	+8	—11
Rice	,,	236	228	**284**	—48	+56	2·72	2·62	**3·18**	+46	+56
Paraffin wax	,,	3	12	**9**	+6	—3	0·13	0·51	**0·36**	+23	—15
Coffee	Cwts.	215	135	**185**	—30	+50	0·86	0·55	**0·75**	—11	+20
Cotton manufactures including twist and yarn.	..	..	..	..	..	..	7·04	9·29	**7·12**	+8	—2,17
Indian cotton piecegoods	Yds.	190,946	241,255	**176,992**	—13,954	—64,263	5·23	6·50	**4·79**	—44	—1,71
Cotton twist and yarn	Lbs.	21,927	40,124	**37,960**	+16,033	—2,164	1·11	2·03	**1·88**	+77	—15
Wood and timber and manufactures thereof.	..	..	..	..	..	..	0·26	0·29	**0·24**	—2	—5
Raw rubber	Lbs.	14,840	17,755	**17,218**	+2,378	—537	0·53	0·84	**0·72**	+19	—12
Raw hemp	Cwts.	769	830	**816**	+47	—14	0·69	0·75	**0·72**	+3	—3
Tobacco	Lbs.	44,750	52,082	**65,143**	+20,393	+13,061	1·77	2·00	**2·76**	+99	+76
Coir manufactures	Cwts.	608	744	**692**	+84	—52	0·78	1·04	**0·96**	+18	—8
Lac (chiefly shellac)	,,	831	665	**642**	—189	—23	2·34	1·62	**1·26**	—1,08	—36
Raw cotton	Bales	4,140	2,731	**2,703**	—1,437	—28	43·17	29·03	**23·86**	—19,31	—5,17
Tea	Lbs.	305,876	334,225	**350,262**	+44,386	+16,037	20·22	24·39	**23·42**	+3,20	—97
Oilseeds	Tons	1,162	950	**1,199**	+37	+249	18·60	14·16	**15·06**	—3,54	+90
Linseed	,,	296	227	**318**	+22	+91	4·36	3·57	**4·40**	+4	+83
Groundnut	,,	740	619	**835**	+95	+216	12·30	8·93	**9·93**	—2,37	+1,00
Rapeseed	,,	38	32	**12**	—26	—20	0·54	0·46	**0·16**	—38	—30
Castor seed	,,	43	42	**8**	—35	—34	0·63	0·64	**0·10**	—53	—54
Coal	,,	726	1,006	**1,321**	+595	+315	0·63	0·95	**1·32**	+69	+37
Woollen carpets and rugs	Lbs.	9,898	11,061	**8,945**	—953	—2,116	0·86	1·02	**0·82**	—4	—20
Fodder, bran and pollards	Tons	9	16	**17**	+8	+1	0·04	0·09	**0·09**	+5	..
Animals	No.	219	230	**179**	—40	—51	0·09	0·09	**0·08**	—1	—1

As compared with 1937-38, the principal items, showing decreases were raw cotton, jute bags and cloth, cotton piecegoods, raw jute, metals and ores, chiefly under manganese ore, hides and skins, food grains except rice, cotton manufactures, raw rubber, paraffin wax and lac (chiefly shellac) while increases were noticed under oilseeds except castor and rape, raw wool, coffee, tobacco and coal. Tea increased in quantity but decreased in value.

14.2. Imports.—The total value of the imports of foreign merchandise into British India (excluding Burma) during 1938-39 amounted to Rs. 152 crores, as compared with Rs. 174 crores in the preceding year, a decrease of 22 crores or 12·6 per cent. The following table shows the fluctuations in important commodities :—

NOTE.—As a result of the separation of Burma, the trade statistics for 1937-38 and 1938-39 given in this table include the trade of British India with Burma and exclude the direct trade of Burma with foreign countries. The figures for 1936-37 have been adjusted as far as available data permit, so as to represent British India excluding Burma.

Commodity.		Quantity (in thousands).					Value.				
		1936-37.	1937-38.	1938-39.	1938-39 compared with 1936-37.	1938-39 compared with 1937-38.	1936-37 (crores).	1937-38 (crores).	1938-39 (crores).	1938-39 compared with 1936-37 (lakhs).	1938-39 compared with 1937-38 (lakhs).
							Rs.	Rs.	Rs.	Rs.	Rs.
Raw cotton	Tons	66	134	**96**	+30	—38	5·88	12·13	**8·51**	+2,63	—3,62
Machinery and millwork	..	..	..	..	..	..	12·76	17·15	**19·05**	+6,29	+1,90
Jute machinery	..	..	..	..	..	..	0·74	1·06	**0·71**	—3	—35
Electrical machinery	..	..	..	..	..	..	2·46	2·69	**13·72**	+1,26	+1,03
Boilers	..	..	..	..	..	..	0·80	1·17	**1·40**	+60	+23
Metals and ores	Tons	400	438	**344**	—56	—94	9·21	13·39	**10·87**	+1,66	—2,52
Iron and steel	„	332	369	**272**	—60	—97	5·36	8·21	**6·68**	+1,32	—1,53
Metals other than iron and steel and manufactures thereof.	„	67	69	**72**	+5	+3	3·83	5·18	**4·19**	+36	—99
Coal tar dyes	Lbs.	16,905	20,888	**12,050**	—4,855	—8,838	2·61	3·43	**2·61**	..	—82
Electrical instruments	..	..	..	..	..	..	2·83	3·47	**3·32**	+49	—15
Paper and pasteboard	Cwts.	2,939	3,633	**3,073**	+134	—560	2·60	4·15	**3·23**	+63	—92
Provisions	..	..	..	..	..	..	2·27	2·60	**2·48**	+21	—12
Hardware	..	..	..	..	..	..	2·64	3·31	**2·57**	—7	—74
Chemicals	..	..	..	..	..	..	2·54	3·33	**3·06**	+52	—27
Wheat	Tons	2	22	**159**	+157	+137	0·02	0·24	**1·17**	+1,15	+93
Fruits and Vegetables Dried, salted or preserved.	„	89	93	**82**	—7	—11	1·14	1·10	**0·88**	—26	—22
Rubber manufactures	..	..	..	..	..	..	1·95	1·89	**1·41**	—54	—48
Textile group	..	..	..	..	..	..	23·83	27·29	**21·24**	—2,59	—6,05
Cotton piecegoods	Yds.	698,835	590,798	**647,264**	—51,571	+56,466	11·95	11·69	**10·27**	—1,68	—1,42
Cotton twist and yarn	Lbs.	27,098	21,998	**36,459**	+9,361	+14,461	2·44	2·51	**2·93**	+49	+42
Wool and woollen goods	..	..	..	..	..	..	2·66	4·15	**2·82**	+16	—1,33
Artificial silk	..	..	..	..	..	..	3·71	4·87	**2·24**	—1,47	—2,63
Silk piecegoods	Yds.	20,381	22,868	**16,873**	—3,508	—5,995	0·78	0·90	**0·67**	—11	—23
Rice (not in the husk)	Tons	1,419	1,198	**1,282**	—137	+84	12·35	10·98	**11·37**	—98	+39
Soap	Cwts.	44	42	**34**	—10	—8	0·25	0·24	**0·22**	—3	—2
Sugar	Tons	19	14	**36**	+17	+22	0·20	0·19	**0·46**	+26	+27
Motor vehicles (cars and cycles).	No.	13	17	**12**	—1	—5	2·30	3·03	**2·22**	—8	—81
Motor omnibuses	„	9	15	**8**	—1	—7	1·28	2·07	**1·18**	—10	—89
Mineral oils	Gal.	406,548	474,946	**438,711**	+32,163	—36,235	14·98	17·45	**14·67**	—31	—2,78
Kerosene oil	„	181,895	202,646	**182,054**	+159	—20,592	7·14	7·62	**6·46**	—68	—1,16
Fuel oil	„	109,529	128,048	**136,788**	+27,259	+8,740	1·54	1·83	**1·98**	+44	+15
Cotton hosiery	..	..	..	..	..	..	0·22	0·29	**0·18**	—4	—11
Haberdashery and millinery	..	..	..	..	..	..	0·53	0·64	**0·47**	—6	—17
Boots and shoes	Pairs	1,013	1,183	**835**	—178	—348	0·15	0·22	**0·15**	..	—7
Precious stones and pearls, unset.	..	..	..	..	..	..	0·89	1·24	**1·15**	+26	—9
Wood and Timber	..	..	..	..	..	..	2·49	2·98	**2·87**	+38	—11

It will be observed that as compared with 1937-38, there were decreases under most of the important items of imports.

14.3. Balance of Trade.—The visible balance of trade in merchandise and treasure for the year 1938-39 was in favour of India to the extent of Rs. 29 crores, as compared with Rs. 30 crores in the preceding year.

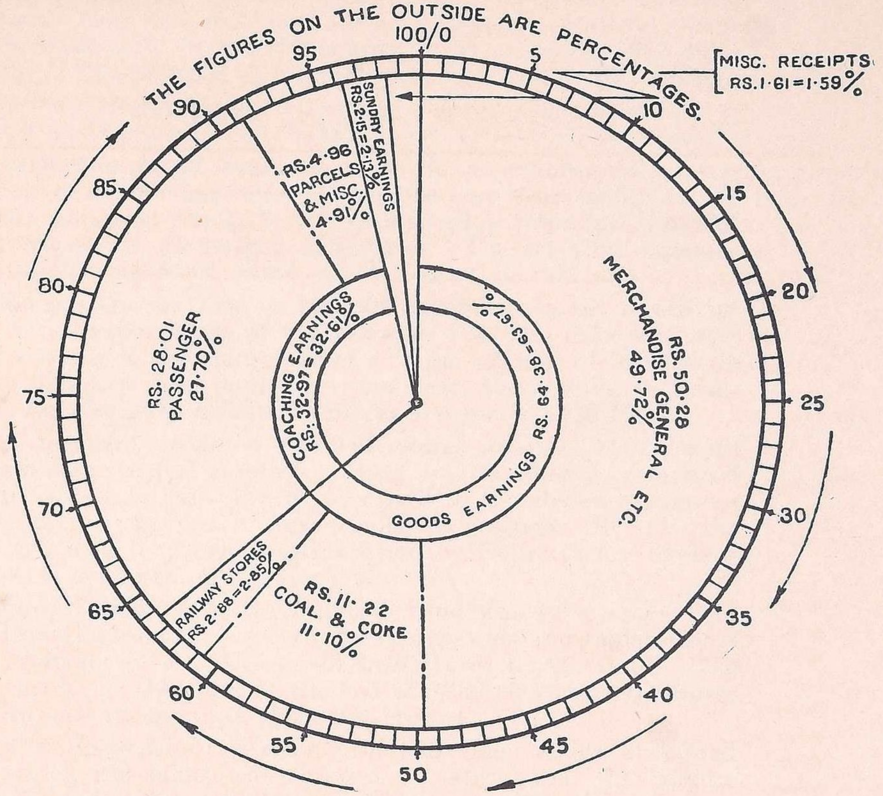
REVENUE RECEIPTS AND EXPENDITURE OF STATE-OWNED RAILWAYS IN INDIA INCLUDING WORKED LINES 1938-39.

FIGURES IN CRORES.

TOTAL REVENUE RECEIPTS.

(RS.101·11)

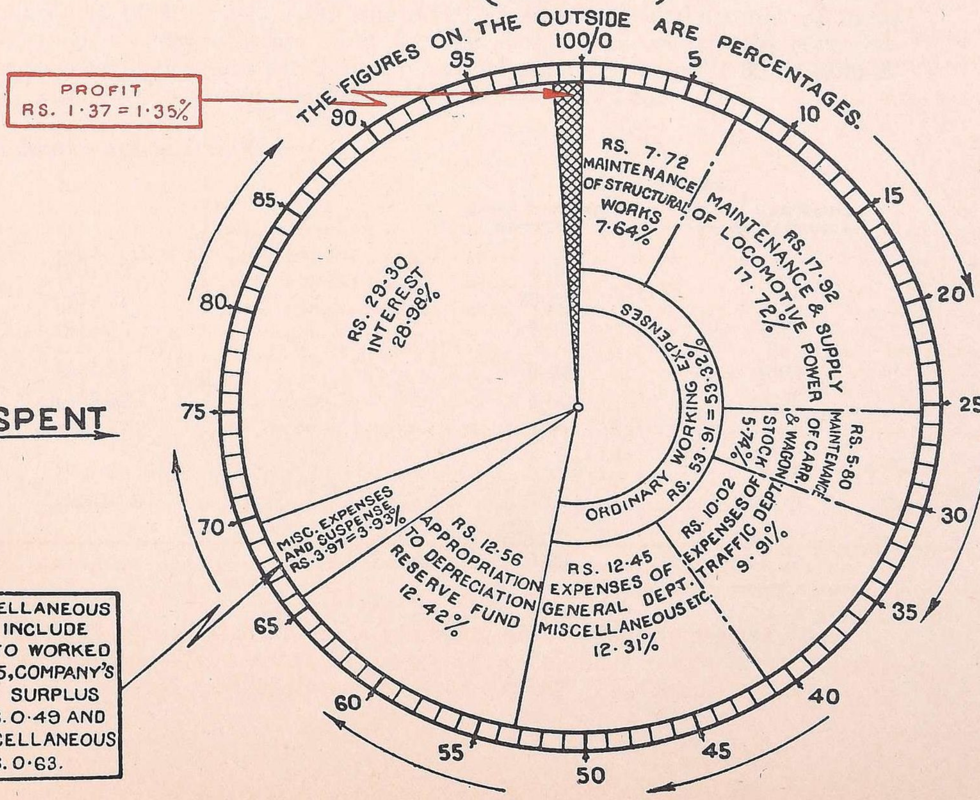
HOW EARNED



TOTAL REVENUE EXPENDITURE.

(RS. 99·74)

HOW SPENT



NOTE:-MISCELLANEOUS EXPENSES INCLUDE PAYMENTS TO WORKED LINES RS.2·75, COMPANY'S SHARE OF SURPLUS PROFITS RS. 0·49 AND LAND, & MISCELLANEOUS CHARGES RS. 0·63.

B.—*Financial results of State Railways.*

15. Financial results of working.—The steady improvement in railway earnings which was noticeable since the beginning of the year 1936-37 continued in the first half of 1937-38. Deterioration in traffic, however, set in from November 1937 and continued through 1938-39. Railways were able to earn 94·48 crores only in 1938-39 against 95·01 crores in 1937-38, a decrease of 53 lakhs. The decrease was in both passenger and goods earnings.

15.1. Ordinary working expenses excluding depreciation amounted to 51·48 crores against 50·37 crores in the previous year, or over a crore more.

15.2. The contribution made from revenue to the depreciation fund was 12·56 crores, which is a lakh less than in the previous year owing to the writing down of the capital at charge by the net amount of premium, discount and exchange in respect of discharged debentures. The working expenses including depreciation were 64·04 crores against 62·94 in 1937-38.

15.3. Miscellaneous transactions in 1938-39 resulted in a net receipt of 23 lakhs against a net expenditure of five lakhs in 1937-38. The improvement of 28 lakhs was due to the realisation of a larger amount of interest on depreciation fund balances than in the previous year, there being no withdrawals from the fund to meet deficits as in years prior to 1936-37.

15.4. The net revenue amounted to 30·67 crores against 32·02 crores in 1937-38 and was in excess of interest charges by 137 lakhs as compared with 276 lakhs in 1937-38. This surplus was paid to the General revenues as contribution from railways, as it was decided to postpone till 1940 the repayment of loans taken in previous years from the Depreciation Reserve Fund to meet losses in the working of railways.

15.5. The appropriation to the depreciation fund was 12·56 crores and the amount withdrawn to meet the expenditure on renewals and replacements was 7·10 crores resulting in an addition of 5·46 crores to the fund. The actual balance at credit of the fund at the end of 1938-39 was 24·67 crores and the nominal balance amounted to about 55½ crores.

15.6. The total works expenditure during the year under review amounted to 942 lakhs of which 233 lakhs was charged to capital and the balance to the depreciation fund. The capital expenditure was 227 lakhs on open line works and six lakhs on new constructions. There was an increase of 84 lakhs in the stores balances which at the end of 1938-39 amounted to 10,08 lakhs.

15.7. At the end of 1938-39 the unliquidated liabilities of railways amounted to 65·66 crores. Of this 30·29 crores is the net amount of loans taken from the depreciation fund, and the balance represents the contributions to general revenues which had remained unpaid from 1931-32 to 1936-37 fully, and partly during the years 1937-38 and 1938-39.

The details are as follows :—

	(In crores of rupees.) Loans from Depreciation fund.	Unpaid contributions to general revenues.
1931-32	4·25	5·36
1932-33	10·23	5·23
1933-34	7·96	5·21
1934-35	5·06	5·04
1935-36	4·00	4·99
1936-37	– 1·21	4·91
1937-38	...	1·58
1938-39	...	**3·05**
Total	30·29	35·37

16. The following statement gives the financial statistics of Indian State-owned railways from 1924-25 to 1938-39 :—

(Figures in lakhs of rupees.)

—	1924-25.	1925-26.	1926-27.	1927-28.	1928-29.	1929-30.	1930-31.	1931-32.	1932-33.	1933-34.	1934-35.	1935-36.	1936-37.	1937-38.	1938-39.
Mileage . . .	*26,985*	*27,090*	*27,664*	*28,086*	*29,111*	*30,878*	*31,197*	*31,640*	*31,642*	*31,644*	*31,619*	*31,732*	*31,729*	29,680*	**29,725**
Capital at charge at end of year (in crores).	635	654	681	714	739	770	783	790	789	787	787	789	789	754	**755**
Gross traffic receipts .	1,00,13	98,94	98,42	1,03,43	1,03,73	1,02,70	95,10	86,63	84,43	86,63	90,20	90,65	95,49	95,01	**94,48**
Operating expenses .	51,65	52,99	52,89	53,06	54,22	55,59	54,39	49,31	49,08	49,50	50,27	50,87	50,23	50,37	**51,48**
Depreciation fund .	10,35	10,67	10,89	11,38	12,00	12,59	13,07	13,46	13,77	13,56	13,72	13,25	13,15	12,57	**12,56**
Net Traffic receipts .	38,13	35,28	34,64	38,99	37,51	34,52	27,64	23,86	21,58	23,57	26,21	26,53	32,11	32,07	**30,44**
Net Miscellaneous receipts after deducting miscellaneous charges and surplus profits payable to companies.	—1,07	—1,19	—1,27	—87	—37	—2	—11	1	1,10	1,05	53	86	—9	—5	**23**
Net revenue . .	37,06	34,09	33,37	38,12	37,14	34,50	27,53	23,87	22,68	24,62	26,74	27,39	32,02	32,02	**30,67**
Interest charges .	23,90	24,81	25,87	27,27	29,33	30,46	32,72	33,07	32,91	32,58	31,80	31,39	30,81	29,26	**29,30**
Surplus . .	13,16	9,28	7,50	10,85	7,81	4,04	—5,19	—9.20	—10,23	—7,96	—5,06	—4,00	1,21	2,76	**1,37**
Paid as contribution to general revenues.	6,78	5,49	6,01	6,28	5,23	6,12	5,74	..	..	..	..	..	..	2,76	**1,37**
Transferred to railway reserve.	6,38	3,79	1,49	4,57	2,58	—2,08	—10,93	—4,95	..	..	..	..	..	..	..
Ratio of working expenses (excluding Depreciation fund) to Gross Traffic receipts.	51·6%	53·6%	53·7%	51·3%	52·3%	54·1%	57·2%	56·9%	56·7%	55·8%	54·7%	54·9%	51·4%	51·6%	**53·1%**
Ratio of working expenses (including Depreciation fund) to Gross Traffic receipts.	61·9%	64·3%	64·8%	62·3%	63·8%	66·4%	70·9%	72·5%	73·0%	71·4%	69·9%	69·5%	65·2%	65·0%	**66·4%**
Ratio of Net Traffic receipts to capital at charge.	6·0%	5·4%	5·1%	5·5%	5·1%	4·5%	3·5%	3·0%	2·7%	3·0%	3·3%	3·4%	42%	4·2%	**4·2%**

NOTE 1.—The figures for the years from 1924-25 to 1936-37 are inclusive of those of the Burma Railways.

NOTE 2.—Credits for materials released from works not charged to revenue were taken in reduction of operating expenses up to 1931-32. From 1932-33 to 1935-36 they were added to receipts and have been included in the above table under net miscellaneous receipts. Since 1936-37, these credits have been taken in reduction of expenditure from the Depreciation Reserve fund. The amounts involved are as follows : 119 lakhs in 1932-33 and 1933-34, 90 lakhs in 1934-35, and 110 lakhs in 1935-36.

NOTE 3.—For purposes of proper comparison with past years the ratios in the last three lines of the statement with respect to 1932-33, 1933-34, 1934-35, 1935-36, 1936-37, 1937-38 and 1938-39 have been worked out as if the above sums of 119, 119, 90, 110, 115, 138 and 132 lakhs were deducted from operating expenses.

NOTE 4.—Working expenses were reduced in 1930-31 by 166 lakhs by a credit from the Depreciation fund for correction of past accounting adjustments and in 1924-25 by 179 lakhs by certain abnormal refunds of expenditure in previous years.

* Excludes 51·80 miles of Bezwada Masulipatam Railway which was purchased by the State on the 4th February 1938.

16.1. Though these statistics show the trend of receipts and expenditure fairly clearly, they do not lend themselves directly to close comparison owing to changes of accounting during the period and certain other special features, the more important of which are mentioned below :—

(*a*) In the years prior to 1932-33, credits on account of material released from works whether in the nature of repairs or renewals or replacements were taken as reducing the working expenses but since that year only credits in connection with repairs and maintenance operations are so taken. For comparison with earlier years, the following sums should be deducted from the working expenses of the years 1932-33 and thereafter :—

	(*Including Burma Railways.*) (In lakhs of rupees.)	(*Excluding Burma Railways.*) (In lakhs of rupees.)
1932-33	119	103
1933-34	119	110
1934-35	90	84
1935-36	110	109
1936-37	115	110
1937-38	...	138
1938-39	...	**132**

(*b*) In 1924-25, working expenses were reduced by a refund of customs duty paid in earlier years on stores imported for Company-managed railways amounting to 141 lakhs and by a transfer from reserves of 38 lakhs representing the cost of writing down stores. A sum of 179 lakhs should be added to the working expenses of that year.

(*c*) In 1930-31, working expenses were reduced by 166 lakhs by a credit from the depreciation fund for correction of past erroneous adjustments.

(*d*) The emergency deductions made from the pay of the staff reduced the working expenses in certain years, namely :—

	(*Including Burma Railways.*) (In lakhs of rupees.)	(*Excluding Burma Railways.*) (In lakhs of rupees.)
1931-32	44	41
1932-33	191	182
1933-34	114	110
1934-35	100	96
1935-36	8	8

(*e*) Since 1936-37, owing to a change in the allocation rules, certain renewal and replacement expenditure has been transferred from ordinary working expenses to depreciation fund. The net figure in this respect was 73 lakhs in 1936-37, about 60 lakhs in 1937-38 and about the same amount in 1938-39.

17. Making allowance for these factors, the comparable figures of traffic receipts and working expenses (excluding Burma railways) from 1924-25 are as follows :—

(In crores of rupees.)

Year.	Traffic Receipts.	Ordinary working expenses including cut in pay.	Ordinary working expenses excluding cut in pay.
1924-25	95·84	51·26	51·26
1925-26	94·01	50·67	50·67
1926-27	93·81	50·49	50·49
1927-28	98·40	50·57	50·57
1928-29	98·78	51·46	51·46
1929-30	97·83	53·02	53·02
1930-31	90·82	53·75	53·75
1931-32	82·89	46·98	47·39
1932-33	81·10	45·85	47·67
1933-34	83·06	46·13	47·23
1934-35	86·48	47·13	48·09
1935-36	87·04	47·52	47·60
1936-37	91·79	47·79	47·79
1937-38	95·01	49·59	49·59
1938-39	**94·48**	**50·76**	**50·76**

18. The statement below gives the net revenue and the percentage of interest charges on the capital at charge—

(In lakhs of rupees.)

Year.	Net revenue.	Percentage of net revenue to capital at charge.	Interest charges.	Percentage of interest charges to capital at charge.	Surplus or Deficit.
1924-25	35,71	5·9	22,98	3·8	12,73
1925-26	32,32	5·2	23,82	3·8	8,50
1926-27	32,02	4·9	24,83	3·8	7,19
1927-28	36,35	5·3	26,15	3·8	10,20
1928-29	35,84	5·1	28,10	4·0	7,74
1929-30	32,82	4·5	28,87	4·0	3,95
1930-31	26,02	3·5	31,13	4·2	—5,11
1931-32	22,93	3·0	31,46	4·2	—8,53
1932-33	21,86	2·9	31,40	4·2	—9,54
1933-34	23,69	3·1	31,03	4·1	—7,34
1934-35	25,70	3·4	30,30	4·0	—4,60
1935-36	26,51	3·5	29,92	4·0	—3,41
1936-37	30,84	4·1	29,39	3·9	1,45
1937-38	32,02	4·2	29,26	3·9	2,76
1938-39	**30,67**	**4·1**	**29,30**	**3·9**	**1,37**

19. The operating ratio of State-owned railway, *i.e.*, the ratio of working expenses to gross traffic receipts was 53 per cent. (excluding depreciation) against 52 per cent. in 1937-38, and 66 per cent. (including depreciation) or 1 per cent. more than in the previous year. In the table below the ratios of earlier years (excluding Burma railways) are given for purpose of comparison.

Year.	Percentage, excluding depreciation.	Percentage, including depreciation.
Average of 5 years, 1924-25 to 1928-29	52·5	63·5
1929-30	54	66
1930 31	57	71
1931-32	56	72
1932-33	57	74
1933-34	56	72
1934-35	55	70
1935-36	55	70
1936-37	52	66
1937-38	52	65
1938-39	**53**	**66**

20. For purposes of comparison certain statistics available for some foreign railways are given below.

The gross receipts of the four amalgamated British railways in 1938 amounted to £182 million, a decrease of £8 million (4 per cent.) over the

previous year, but £25½ million (12 per cent.) less than in 1929. Their working expenses amounted to £156 million or £1 million (0·6 per cent.) more than in the previous year and £12 million (7 per cent.) less than in 1929. The operating ratio was 85·7 per cent. as against 81·6 per cent. in the previous year and 81 per cent. in 1929.

The Canadian Pacific Railway earned 142 million dollars in 1938, 3 million dollars (2 per cent.) less than in the previous year, and 68 million dollars (32 per cent.) less than in 1929. Their working expenses were 121 million dollars or about the same as in 1937 and 46 million dollars (28 per cent.) less than in 1929. The operating ratio, which was 79½ per cent. in 1929 and 83·64 per cent. in 1937, stood at 85·41 per cent. in 1938.

The Canadian National Railways realised 182 million dollars in 1938, 16 million dollars (8 per cent.) less than in 1937 and 86 million dollars (32 per cent.) less than in 1929. Their working expenses amounted to 176 million dollars, which were lower by 5 million dollars (3 per cent.) than in 1937 but 45 million dollars (20 per cent.) below that of 1929. The operating ratio was 96·67 per cent. against 91·12 in the previous year and 14¼ per cent. higher than in 1929.

The receipts of the principal railways of the United States were 3,565 million dollars in 1938, which was about 14 per cent. less than in 1937, and 32 per cent. less than in 1930. The working expenses, which were 2,722 million dollars, were 13 per cent. less than in the previous year and 31 per cent. less than in 1930. The operating ratio in 1938 was 76·35 per cent. against 74·87 per cent. in 1937 and 74·45 per cent. in 1930.

The gross receipts of the German State Railways for 1938 were Reichmarks 4,815 million, which showed an increase of Reichmarks 395 million (9 per cent.) over the previous year, but a decrease of Reichmarks 538 million (10 per cent.) as compared with 1929. Their working expenses came to Reichmarks 4,385 million or Reichmarks 380 million (9 per cent.) more than in the previous year but Reichmarks 108 million (2 per cent.) less than in 1929. The operating ratio was 92·75 per cent. against 90·6 per cent. in 1937 and 83·93 per cent. in 1929.

21. Traffic Receipts.—The following table compares the traffic receipts (excluding Burma railways) in detail with the previous years :—

(Crores of rupees.)

—	1928-29.	1929-30.	1930-31.	1931-32.	1932-33.	1933-34.	1934-35.	1935-36.	1936-37.	1937-38.	**1938-39.**
Passenger earnings	33·81	34·34	30·49	27·98	28·01	26·78	27·05	27·17	26·86	28·41	**28·01**
Other coaching earnings.	5·99	5·63	5·24	5·10	4·89	4·80	4·79	4·92	5·06	5·16	**4·96**
Goods earnings .	64·62	62·07	57·89	52·89	51·58	55·68	58·39	58·93	63·79	64·79	**64·38**
Sundry earnings .	2·01	2·10	1·88	1·74	1·56	1·52	1·56	1·76	2·03	1·95	**2·15**
Suspense . .	—0·24	0·30	0·41	0·35	0·03	—0·49	0·09	—0·24	—0·24	0·15	**0·12**
TOTAL .	106·19	104·44	95·91	88·06	86·07	88·29	91·88	92·54	97·50	100·46	**89·62**
Less—											
Refunds .	*0·14*	*0·14*	*0·10*	*0·10*	*0·11*	*0·10*	*0·12*	*0·13*	*0·18*	..	..
Earnings of worked lines.	*7·27*	*6·47*	*4·99*	*5·07*	*4·86*	*5·13*	*5·28*	*5·37*	*5·53*	*5·45*	***5·14***
NET .	98·78	97·83	90·82	82·89	81·10	83·06	86·48	87·04	91·79	95·01	**94·48**

Compared with the previous year there has been a reduction under all the items, except sundry earnings.

21.1. The statement below gives the details of passenger earnings on all Class I Railways (excluding Burma railways) from 1929-30 onwards. Figures are not available separately for State-owned railways alone, but the figures for Class I Railways can be taken as sufficiently representative.

Passenger earnings for Class I Railways.

(In lakhs of rupees.)

Classes.	1929-30.	1930-31.	1931-32.	1932-33.	1933-34.	1934-35.	1935-36.	1936-37.	1937-38.	**1938-39.**
First class.	97	88	78	74	72	73	74	77	78	**76**
Second class	1,68	1,57	1,43	1,38	1,32	1,33	1,36	1,37	1,39	**1,35**
Intermediate class.	1,56	1,39	1,21	1,13	1,10	1,10	1,10	1,13	1,21	**1,22**
Third class	31,19	27,65	25,47	25,65	24,50	24,72	24,83	24,45	25,94	**25,89**
TOTAL .	35,40	31,49	28,89	28,90	27,64	27,88	28,03	27,72	29,32	**29,22**

21.2. The statement below gives details of the various commodities which have contributed to the goods earnings of all Class I Railways (excluding Burma railways) and compares them with similar figures for the past few years.

(Figures in lakhs.)

—	1929-30.	1930-31.	1931-32.	1932-33.	1933-34.	1934-35.	1935-36.	1936-37.	1937-38.	**1938-39**
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
1. Cotton, raw pressed and unpressed.	4,50	3,99	2,41	2,75	3,56	3,40	3,74	4,62	2,88	**2,89**
2. Cotton manufactured.	2,36	2,28	2,30	2,37	2,34	2,40	2,48	2,46	2,60	**2,59**
3. Coal for the public.	6,66	6,11	5,91	5,88	6,48	7,04	6,87	6,93	8,24	**7,88**
4. Coal for foreign railways and home line construction.	2,77	2,63	2,15	2,24	2,28	2,49	2,45	2,58	2,98	**2,86**
5. Metallic ores .	1,33	80	50	36	52	84	1,15	99	1,41	**1,06**
6. Rice . .	3,25	2,88	2,83	2,87	3,07	3,25	3,06	3,38	3,30	**3,39**
7. Wheat . .	2,02	2,68	2,15	1,82	1,84	2,09	2,10	2,46	2,67	**2,40**
8. Gram, pulse, jowar, bajra, and other grains.	3,43	3,34	3,49	3,01	2,83	3,27	2,97	3,38	3,47	**3,31**
9. Iron and steel wrought.	2,40	2,02	1,78	1,97	2,18	2,30	2,54	2,61	2,49	**2,63**
10. Kerosene oil .	1,64	1,46	1,58	1,35	1,43	1,49	1,46	1,60	1,59	**1,58**
11. Jute . .	1,46	1,36	99	1,12	1,29	1,24	96	1,30	1,17	**1,18**
12. Oil seeds .	3,93	3,99	3,50	2,86	3,61	2,94	2,74	3,28	3,03	**3,60**
13. Sugar . .	2,01	2,02	1,50	1,28	1,66	1,55	1,55	2,27	2,11	**2,16**
14. Gur, jagree and molasses.	92	95	1,23	1,36	1,18	1,17	1,25	1,27	1,20	**1,01**

The most noticeable decreases in 1938-39 are in coal traffic both for the public and for foreign railways and home line construction (48 lakhs), in metallic ore (35 lakhs), wheat (27 lakhs), gur, jagree and molasses (19 lakhs), gram, pulse, jowar, bajra and other grains (16 lakhs). There has, however, been an increase of 57 lakhs in oilseeds and of 14 lakhs in iron and steel wrought.

21.3. The statement below compares the receipts of individual railways in 1938-39 with the previous years :—

(Figures in lakhs.)

Railways.	1929-30.	1930-31.	1931-32.	1932-33.	1933-34.	1934-35.	1935-36.	1936-37.	1937-38.	**1938-39.**
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	**Rs.**
Assam Bengal .	2,05	1,96	1,84	1,56	1,60	1,80	1,60	1,68	1,76	**1,89**
Bengal Nagpur	9,31	8,17	7,24	6,91	7,39	7,94	8,64	8,38	9,51	**9,48**
Bombay, Baroda and Central India.	11,52	10,90	10,30	10,17	10,61	11,06	11,08	11,89	12,01	**11,87**
Eastern Bengal	6,73	5,86	5,05	4,91	5,07	5,42	5,26	5,74	5,83	**5,94**
East Indian .	19,85	18,24	17,36	17,27	17,63	18,71	18,62	19,45	21,00	**20,84**
Great Indian Peninsula.	14,58	13,33	11,92	11,94	12,21	12,17	12,40	13,27	13,01	**12,94**
Madras and Southern Mahratta.	8,98	7,98	7,15	6,66	6,84	6,72	6,55	6,68	6,92	**7,26**
North Western (Commercial).	14,39	14,98	13,34	12,74	13,23	13,87	14,16	15,63	15,52	**15,08**
North Western (Strategic).	1,59	1,48	1,31	1,23	1,23	1,23	1,26	1,37	1,45	**1,32**
South Indian .	6,33	5,80	5,30	5,51	5,14	5,25	5,00	5,12	5,34	**5,24**
Other Railways	2,50	2,12	2,08	2,20	2,11	2,31	2,47	2,57	2,66	**2,62**

During the year under review there was a decrease in earnings on all railways except the Madras and Southern Mahratta, Assam Bengal and Eastern Bengal railways. These three railways contributed to an increase of 34 lakhs, 13 lakhs and 11 lakhs, respectively. The increases on the Madras and Southern Mahratta and Eastern Bengal Railways were mainly due to improvement in groundnut traffic on the former and rice, paddy and coal traffic on the latter. The increase on the Assam-Bengal Railway, however, was both in coaching and goods earnings partly due to issue of "Round Tour" tickets and partly to better movement of tea, rice, jute, coal and iron. Reduction in earnings principally occurred on the North Western, East Indian, Bombay, Baroda and Central India and South Indian Railways. The largest decrease of over half a crore, on the first railway was due to severe motor bus competition, fall in export of wheat and less movement of gram, pulses and oil seeds. Failure of sugar crop, adverse economic conditions and industrial strikes affected the East Indian Railway to the tune of 16 lakhs and fall in the movement of general merchandise and fuel accounted for a fall in earnings on the Bombay, Baroda and Central India by 14 lakhs. The reduction of 10 lakhs on the South Indian Railway was due to adverse economic conditions brought about by the failure of the north-east monsoon which affected travel generally.

22. Ordinary working expenses.—A comparison of working expenses (excluding depreciation) of all railways (other than Burma Railways) by Abstracts is given below :—

(In lakhs of rupees.)

Abstracts.	1933-34.	1934-35.	1935-36.	1936-37.	1937-38.	1938-39.
Maintenance of Structural Works . .	8,24	8,45	8,43	7,86	7,94	**7,72**
Maintenance and supply of Locomotive Power	16,16	16,39	16,09	16,24	17,53	**17,92**
Maintenance of Carriage and Wagon stock .	5,62	5,90	6,13	5,73	6,13	**5,80**
Maintenance of ferry steamers and harbours .	28	30	27	27	29	**28**
Expenses of Traffic Department . . .	10,34	10,48	10,42	10,59	10,63	**10,02**
Expenses of General Department . .	4,66	4,70	4,69	4,67	4,89	**3,99**
Miscellaneous Expenses	4,32	4,21	4,21	4,18	4,33	**4,35**
Electric Service Department . . .	1,20	1,22	1,18	1,16	1,20	**3,83**
Suspense	—2	—6	—5	12	7	**10**
Emergency deductions from pay . . .	—1,10	—96	—8	..	..	..
TOTAL .	49,70	50,63	51,29	50,82	53,01	**54,01**
Deduct—Recoveries from worked lines .	2,60	2,66	2,68	2,66	2,64	**2,53**
Net total for State-owned railways	47,10	47,97	48,61	48,16	50,37	**51,48**

22.1. A comparison of the working expenses (excluding depreciation) of each railway with the previous years will be found below :—

(Figures in lakhs.)

—	1929-30.	1930-31.	1931-32.	1932-33.	1933-34.	1934-35.	1935-36	1936-37.	1937-38.	1938-39.
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	**Rs.**
Assam Bengal .	1,13	1,12	1,09	1,02	1,07	1,16	1,12	1,06	1,16	**1,20**
Bengal Nagpur .	5,51	5,36	4,83	4,77	4,82	5,06	5,42	5,30	5,53	**5,74**
Bombay, Baroda and Central India.	6,07	6,14	5,47	5,38	5,26	5,44	5,33	5,55	5,69	**5,81**
Eastern Bengal .	3,84	3,74	3,29	3,16	3,33	3,41	3,62	3,63	3,81	**4,08**
East Indian . .	10,21	9,95	9,02	8,88	8,78	9,19	9,24	9,23	10,24	**10,47**
Great Indian Peninsula.	8,37	8,57	7,13	7,06	6,99	6,78	6,76	6,55	6,77	**6,91**
Madras and Southern Mahratta.	3,95	3,88	3,33	3,24	3,30	3,40	3,41	3,26	3,66	**3,79**
North Western (Commercial).	8,47	9,03	7,74	7,23	7,57	7,61	7,50	7,39	8,11	**8,10**
North Western (Strategic).	1,68	1,76	1,38	1,42	1,39	1,43	1,42	1,43	1,41	**1,35**
South Indian .	2,79	2,87	2,63	2,76	2,67	2,73	2,74	2,68	2,82	**2,86**
Other Railways .	1,00	1,02	98	92	95	1,06	1,12	1,12	1,17	**1,17**

There has been an increase in working expenses on almost all the railways due mainly to rise in the price of coal and materials required for repairs, flood damages and to the transfer from capital suspense to revenue of certain expenses of the Electrical Department.

23. Losses and gains.—The statement below gives the net gain or loss of the various railways for every year from 1924-25 to 1938-39. For the purpose of calculating these gains or losses, the figures shown in the Companies' accounts have been recast to accord with the Government accounting procedure, *i.e.*, the working expenses include the Appropriation to the Depreciation fund and not the actual expenditure on renewals and replacements which are taken into account in the Companies own accounts.

(In lakhs of rupees.)

—	1924-25.	1925-26.	1926-27.	1927-28.	1928-29.	1929-30.	1930-31.	1931-32.	1932-33.	1933-34.	1934-35.	1935-36.	1936-37.	1937-38.	1938-39.	TOTAL
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
State-managed railways.																
Eastern Bengal	16	10	70	80	54	16	—80	—1,23	—1,28	—1,25	—93	—1,18	—79	—78	**—94**	**—6,72**
East Indian	2,89	2,80	2,67	3,19	2,44	1,61	—18	—24	—13	37	1,14	1,04	1,75	2,39	**2,00**	**23,74**
Great Indian Peninsula.	2,42	47	71	1,41	1,08	8	—1,72	—1,78	—1,68	—1,24	—1,04	—67	46	12	**—6**	**—1,44**
North Western (Commercial).	2,87	1,76	1,21	1,23	9	—64	—1,16	—1,58	—1,78	—1,36	—70	25	1,53	1,07	**64**	**3,43**
North Western (Strategic).	—1,59	—1,47	—1,65	—1,68	—1,74	—1,90	—2,18	—1,99	—2,09	—2,03	—2,03	—2,10	—1,96	—1,85	**—1,92**	**—28,18**
Company-managed railways.																
Assam Bengal	—31	—13	—11	4	—6	—24	—39	—52	—74	—73	—60	—84	—75	—75	**—66**	**—6,79**
Bengal Nagpur	—12	—47	—40	—20	—47	—66	—1,99	—2,48	—2,80	—2,27	—1,86	—1,38	—1,52	—56	**—83**	**—18,01**
Bombay, Baroda and Central India.	2,92	2,20	1,42	1,58	1,64	1,25	43	45	41	99	1,28	1,56	2,16	2,16	**1,92**	**22,37**
Madras and Southern Mahratta.	1,11	85	63	1,04	1,38	89	1	14	—27	—4	—26	—38	—3	—11	**6**	**5,02**
South Indian	97	1,13	1,20	1,25	81	1,19	31	1	6	—21	—10	—32	—11	..	**—14**	**6,05**
Lucknow Bareilly	9	9	4	10	6	5	6	4	5	5	8	8	10	10	**8**	**1,07**
Tirhoot	62	60	68	56	66	68	24	29	34	25	32	35	41	44	**38**	**6,82**

The railways which show a loss during 1938-39 are Assam Bengal (⅔ crore), the Eastern Bengal Railway (about a crore), the Bengal Nagpur (¾ crore), the North Western—Strategic section—(2 crores), the South Indian Railway (14 lakhs) and the Great Indian Peninsula Railway (6 lakhs).

It is interesting to notice that during the 15 years, of which the first six were prosperous, the State has received large profits from seven railways, *viz.*, 23¾ crores from the East Indian, 22⅓ crores from the Bombay, Baroda and Central India, about six crores from the South Indian; seven crores from the Bengal and North-Western (Tirhoot); five crores from the Madras and Southern Mahratta; three and a half crores from the North Western (Commercial lines) and one crore from the Lucknow Bareilly. On the other hand, it had to bear losses on five railways. The largest was about 28¼ crores on the Strategic section of the North Western Railway, the next largest being 18 crores on the Bengal Nagpur Railway. On the Assam Bengal Railway it amounted to 6¾ crores. The Eastern Bengal and Great Indian Peninsula Railways were responsible for losses of 6¾ and 1½ crores respectively.

24. Capital at charge.—The statement below shows the capital at charge on all railways (excluding Burma railways) in which the State has financial interest. For purposes of comparison sterling liabilities included

in the capital at charge have been converted into rupees at the statutory rate of exchange :—

	(Crores of rupees.) Capital at charge at the end of the year.		(Crores of rupees.) Capital at charge at the end of the year.
1923-24	595	1931-32	754
1924-25	608	1932-33	754
1925-26	626	1933-34	752
1926-27	652	1934-35	752
1927-28	683	1935-36	754
1928-29	706	1936-37	754
1929-30	735	1937-38	754
1930-31	748	1938-39	755

It will be noticed that the capital at charge at end of 1938-39 is only a crore more than at end of 1937-38 and has increased in 15 years by 160 crores, though the increase has not been uniform. During the first six prosperous years, the average yearly increase was $23\frac{1}{3}$ crores. During the next nine years, it is $2\frac{2}{9}$ crores.

Though the total increase in the capital at charge is 160 crores, the real expenditure during these 15 years is 171 crores since stores balances have been reduced by 11 crores in the period. Of this total, the construction of new lines accounts for 44 crores. 12 crores is due to the acquisition of lines already in existence, but owned by private companies, the most important of which are the Delhi-Ambala-Kalka, Amritsar-Patti-Kasur and the Southern Punjab Railways. The balance of 115 crores represents the expenditure charged to capital on additions to and improvements of the open line such as rebuilding of bridges, relaying of track, improvement of traffic facilities, *e.g.*, expansion of station yards, purchasing of improved rolling stock, reconstruction and modernising of workshops and so on. At the same time 125 crores have been spent from the depreciation fund during the period for the improvement of the open line.

25. Works Expenditure.—The statement below gives the total expenditure (excluding Burma Railways) on works year by year from 1924-25 and shows separately the expenditure on new constructions, open line works and amounts spent on the purchase of railways.

(In lakhs of rupees.)

Years.	New constructions.	Open line works.	Purchase of railways and branch line shares.	Total capital.	Depreciation fund.	Total works expenditure.
1924-25	2,61	9,71	..	12,32	6,96	19,28
1925-26	3,87	14,62	..	18,49	7,56	26,05
1926-27	6,21	15,48	4,33	26,02	7,64	33,66
1927-28	9,36	21,18	3	30,57	10,58	41,15
1928-29	8,39	15,25	30	23,94	9,35	33,29
1929-30	5,81	15,32	7,06	28,19	11,26	39,45
1930-31	4,12	8,52	1	12,65	10,69*	23,34*
1931-32	2,53	3,66	..	6,19	8,01	14,20
1932-33	37	—45	..	—8	5,88	5,80
1933-34	13	—2,34	..	—2,21	7,80	5,59
1934-35	17	45	—20	42	8,30	8,72
1935-36	28	1,97	44	2,69	8,89	11,58
1936-37	..	50	..	50	7,45	7,95
1937-38	—5	61	—4	52	7,99	8,51
1938-39	6	2,27	..	**2,33**	**7,09**	**9,42**
TOTAL .	43,86	106,75	11,93	162,54	125,45	287,99

* Includes a debit of 166 lakhs for correction of past erroneous adjustments.

The total expenditure on works, excluding the credits of $1\frac{1}{4}$ crores for the value of materials released from works, was about $10\frac{3}{4}$ crores and was more by 85 lakhs than the expenditure in the previous year. Of the total,

$3\frac{1}{4}$ crores was on rolling stock, $4\frac{1}{4}$ crores on renewal of track, and $3\frac{1}{4}$ crores on general engineering works, etc.

26. Stores balances.—The total stores balance at the end of 1938-39 was 84 lakhs higher than in the previous year :—

The table below gives the figures for a number of years :—

(Figures in lakhs.)

—	1921-22.	1922-23.	1923-24.	1924-25.	1925-26.	1926-27.	1927-28.	1928-29.	1929-30.	1930-31.	1931-32.	1932-33.	1933-34.	1934-35.	1935-36.	1936-37.	1937-38.	**1938-39.**
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	**Rs.**
Assam Bengal . .	25	32	18	12	9	13	13	15	18	22	21	15	14	13	14	17	18	**27**
Bengal Nagpur . .	1,40	1,62	1,48	1,50	1,28	1,17	1,08	1,33	1,36	1,21	1,07	1,02	97	1,01	1,06	1,11	1,02	**1,17**
Bombay, Baroda and Central India.	2,77	2,72	2,33	1,77	1,63	1,46	1,67	1,62	1,61	1,65	1,46	1,30	1,09	1,02	93	87	80	**87**
Eastern Bengal . .	2,52	1,76	1,58	1,22	1,12	84	84	80	77	76	69	55	40	43	57	50	57	**65**
East Indian (including Oudh and Rohilkund).	3,92	4,39	4,11	3,14	2,81	2,48	2,99	3,15	3,04	2,48	2,27	2,09	1,60	1,38	1,44	1,30	1,41	**1,52**
Great Indian Peninsula .	4,66	3,88	3,98	2,90	2,39	2,23	2,53	2,42	2,62	2,52	2,18	1,80	1,51	1,27	1,17	1,03	98	**1,03**
Madras and Southern Mahratta.	1,51	1,66	1,51	1,03	84	77	94	83	83	79	76	72	53	50	50	51	56	**55**
North Western (Commercial).	3,94	3,93	3,80	2,73	2,44	2,86	3,92	3,70	3,48	2,60	2,27	1,85	1,66	1,46	1,52	1,79	2,08	**2,33**
North Western (Strategic)	58	58	72	63	83	84	92	90	92	94	91	1,02	93	82	75	67	66	**62**
South Indian . .	1,14	1,39	99	77	1,13	1,07	1,24	1,14	1,06	94	80	70	56	47	48	49	51	**59**
Other Railways . .	31	41	42	43	37	39	47	44	53	57	52	47	43	43	44	43	47	**48**
TOTAL .	23,00	22,66	21,10	16,24	14,93	14,24	16,73	16,48	16,40	14,68	13,14	11,67	9,82	8,92	9,00	8,87	9,24	**10,08**

27. Depreciation Fund.—The amount appropriated to the depreciation fund by debit to the working expenses of State-owned railways and the amount drawn from the fund to meet the expenditure incurred on the replacements and renewals actually carried out on those railways during 1938-39 are given in the statement below :—

Account of Depreciation fund for 1938-39.

(Figures in lakhs.)

Railways.	Opening Balance.	Credits to Depreciation fund in 1938-39.	Amount spent on Replacements and Renewals, etc., and charged to Depreciation fund in 1938-39.	Closing Balance.
1	2	3	4	5
State Lines managed by State.	Rs.	Rs.	Rs.	Rs.
North Western	11,34	2,46	1,35	12,45
Eastern Bengal . . .	2,55	86	61	2,80
East Indian (including Tatanagar workshops).	8,59	2,47	1,13	9,93
Great Indian Peninsula . . .	7,98	1,91	1,04	8,85
State Lines managed by Companies.				
Bengal Nagpur	6,48	1,29	1,01	6,76
Bombay, Baroda and Central India .	4,85	1,24	66	5,43
Madras and Southern Mahratta .	2,57	90	42	3,05
South Indian . .	2,24	76	43	2,57
Other Railways and Miscellaneous .	3,30	67	43	3,54
TOTAL .	49,90	12,56	7,08	55,38
Withdrawal from Depreciation fund to meet the loss on the working of Railways	—30,29	..	..	—30,29
Shares of branch lines, etc. . .	—31	..	2	—33
Loans to Branch Line Companies .	—9	..	..	—9
Net .	19,21	12,56	7,10	24,67

28. An analysis of the financial results of the working of the railways owned by the State is given in the following statement, for the last three years, by each railway :—

(Figures in thousands of rupees.)

Railways.	Year.	Capital at charge.	*Deduct* amount of capital contributed by Companies and Indian States.	Net Government Capital at charge.	Receipts.	Working Expenses including Depreciation.	Payment to worked lines.	Net Receipts.	Percentage of Net Receipts on Capital at charge.	Charge against net Revenue Receipts. Payment on account of share of Surplus Profits.	Charge against net Revenue Receipts. Interest, Annuity and Sinking Fund charges.	Gain.	Loss.
1	2	3	4	5	6	7	8	9	10	11	12	13	14
State Lines managed by State.													
North Western	1936-37	1,46,84,36	..	1,46,84,36	17,54,10	11,89,01	28,15	5,36,94	3·7	..	5,79,92	..	42,98
	1937-38	1,47,20,09	..	1,47,20,09	17,52,72	12,25,48	28,71	4,98,53	3·4	..	5,76,43	..	77,90
	1938-39	**1,47,59,08**	..	**1,47,59,08**	**16,97,90**	**12,21,46**	**29,41**	**4,47,03**	**3·0**	..	**5,75,37**	..	**1,28,34**
Eastern Bengal	1936-37	51,48,09	..	51,48,09	5,87,46	4,63,40	8,57	1,15,49	2·2	..	1,94,21	..	78,72
	1937-38	51,48,69	..	51,48,69	5,95,93	4,73,29	7,32	1,15,32	2·2	..	1,92,96	..	77,64
	1938-39	**51,71,15**	..	**51,71,15**	**6,07,71**	**5,00,79**	**8,61**	**98,31**	**1·9**	..	**1,92,80**	..	**94,49**
East Indian	1936-37	1,47,70,09	1,12,14	1,46,57,95	19,52,14	11,82,27	7,81	7,62,06	5·2	..	5,87,32	1,74,74	..
	1937-38	1,48,18,38	1,12,14	1,47,06,24	21,07,21	12,73,96	7,73	8,25,52	5·6	..	5,86,87	2,38,65	..
	1938-39	**1,48,41,38**	**1,12,14**	**1,47,29,24**	**20,91,15**	**12,97,80**	**7,62**	**7,85,73**	**5·3**	..	**5,85,72**	**2,00,01**	..
Great Indian Peninsula	1936-37	1,14,57,77	..	1,14,57,77	13,83,25	8,86,83	31,88	4,64,54	4·1	..	4,18,84	45,70	..
	1937-38	1,14,75,29	..	1,14,75,29	13,57,38	8,97,79	30,67	4,28,92	3·7	..	4,17,32	11,60	..
	1938-39	**1,14,21,85**	..	**1,14,21,85**	**13,51,33**	**9,12,76**	**30,32**	**4,08,25**	**3·6**	..	**4,14,61**	..	**6,36**

State Lines managed by Companies.													
Bengal Nagpur	1936-37	77,83,53	9,52,20	68,31,33	8,40,73	6,68,28	1,41	1,71,04	2·2	..	3,22,78	..	1,51,74
	1937-38	77,23,54	7,37,80	69,85,74	9,53,23	6,84,17	1,41	2,67,65	3·5	..	3,24,13	..	56,48
	1938-39	**77,64,58**	**6,82,29**	**70,82,29**	**9,49,80**	**7,04,73**	**1,31**	**2,43,76**	**3·1**	**4,01**	**3,22,44**	..	**82,69**
Bombay, Baroda and Central India	1936-37	73,77,60	5,49,00	68,28,60	12,50,05	7,16,74	27,16	5,06,15	6·9	16,52‡	2,73,68	2,15,95	..
	1937-38	73,83,87	5,49,00	68,34,87	12,64,56	7,29,09	26,31	5,09,16	6·9	20,47‡	2,72,32	2,16,37	..
	1938-39	**74,07,95**	**5,49,00**	**68,58,95**	**12,49,01**	**7,40,71**	**25,94**	**4,82,36**	**6·5**	**18,82‡**	**2,71,66**	**1,91,88**	..
Madras and Southern Mahratta	1936-37	53,30,57	10,68,25	42,62,32	7,42,88	4,69,50	31,45	2,41,93	4·5	19,39	2,25,09	..	2,55
	1937-38	53,62,08	10,54,18	43,07,90	7,52,89	4,89,63	25,84	2,37,42	4·4	23,96	2,24,82	..	11,36
	1938-39	**53,28,25**	**6,59,33**	**46,68,92**	**7,53,86**	**4,84,86**	**11,85**	**2,57,15**	**4·8**	**18,14**	**2,32,79**	**6,22**	..
South Indian	1936-37	45,67,54	6,35,81‖	39,31,73	5,36,33	3,64,81	7,12	1,64,40	3·6	3,61	1,71,42	..	10,63
	1937-38	45,68,61	5,64,76‖	40,03,85	5,59,15	3,75,81	7,34	1,76,00	3·9	4,37	1,71,22	41	..
	1938-39	**45,94,19**	**5,64,76‖**	**40,29,43**	**5,49,12**	**3,79,94**	**7,46**	**1,61,72**	**3·5**	**4,90**	**1,71,30**	..	**14,48**
Other railways	1936-37	42,99,18	4,21,87	38,77,31	6,85,03	3,98,68	1,58,19	1,28,16	2·9	2,91	1,66,15	..	40,90
	1937-38	41,66,30	4,22,89	37,43,41	7,02,30	4,08,72	1,57,47	1,36,11	3·3	3,75	1,60,21	..	27,85
	1938-39	**42,37,17**	**4,33,73**	**38,03,44**	**7,12,23**	**4,14,20**	**1,52,16**	**1,45,87**	**3·4**	**3,28**	**1,62,90**	..	**20,31**
Adjustments :—													
Net result of adjustment of credits on account of released materials and expenditure on non-wasting assets of company-managed railways under Repairs and Maintenance.	1936-37	..	..	..	..	..	..	..	..	..	..	..	..
	1937-38	..	..	..	..	..	..	..	..	..	..	..	..
	1938-39	..	..	..	..	..	..	..	..	..	..	..	..
Interest on Depreciation and Reserve Fund balances.	1936-37	..	..	..	55,01	..	..	55,01	..	..	..	55,01	..
	1937-38	..	..	..	80,52	..	..	80,52	..	..	..	80,52	..
	1938-39	..	..	..	**1,03,13**	..	..	**1,03,13**	..	..	..	**1,03,13**	..

NOTE.—For remarks please see next page.

(Figures in thousands of rupees.)

Railways.	Year.	Capital at charge.	*Deduct* amount of capital contributed by Companies, Indian States and District Boards.	Net Government Capital at charge.	Receipts.	Working Expenses including Depreciation.	Payment to worked lines.	Net Receipts.	Percentage of Net Receipts on Capital at charge.	CHARGE AGAINST NET REVENUE RECEIPTS. Payment on account of share of Surplus Profits.	CHARGE AGAINST NET REVENUE RECEIPTS. Interest, Annuity and Sinking Fund charges.	Gain.	Loss.
1	2	3	4	5	6	7	8	9	10	11	12	13	14
Net Miscellaneous Receipts and Charges not attributable to any one Railway.	1936-37	..	..	..	..	..	..	..	..	..	..	..	18,80*
	1937-38	..	..	..	..	..	..	..	..	..	..	..	20,67*
	1938-39	..	..	..	..	..	..	..	..	..	..	..	**17,25***
Total (Central)	1936-37	7,54,18,73	37,39,27	7,16,79,46	97,86,98	63,39,52	3,01,74	31,45,72	4·2	42,43	29,39,41	1,45,08	..
	1937-38	7,53,66,85	34,40,77	7,19,26,08	1,01,25,89	65,57,94	2,92,80	32,75,15	4·3	52,55	29,26,28	2,75,65	..
	1938-39	**7,55,25,60**	**30,01,25**	**7,25,24,35**	**1,00,65,24**	**66,57,25**	**2,74,68**	**31,33,31**	**4·1**	**49,15**	**29,29,59**	**1,37,32**	..
Provincial Railways	1936-37	14,61	..	14,61	(*a*)1,41	..	..	1,41	..	..	50	91	..
	1937-38	(*b*)14,61	..	(*b*)14,61	(*a*)1,98	..	..	1,98	..	..	5	1,93	..
	1938-39	..	..	..	**(*a*)1,37**	..	..	**1,37**	..	..	..	..	..
North Western (Commercial)	1936-37	1,13,04,69	..	1,13,04,69	16,16,79	9,89,06	28,15	5,99,58	5·3	..	4,46,13	1,53,45	..
	1937-38	1,13,26,80	..	1,13,26,80	16,07,85	10,28,27	28,71	5,50,87	4·9	..	4,43,82	1,07,05	..
	1938-39	**1,13,57,94**	..	**1,13,57,94**	**15,66,21**	**10,30,27**	**29,41**	**5,06,53**	**4·5**	..	**4,43,09**	**63,44**	..
Non-Commercial (Strategic) (North Western Railway).	1936-37	33,79,67	..	33,79,67	1,37,31	1,99,95	..	—62,64	—1·9	..	1,33,79	..	1,96,43
	1937-38	33,93,29	..	33,93,29	1,44,87	1,97,21	..	—52,34	—1·5	..	1,32,61	..	1,84,95
	1938-39	**34,01,14**	..	**34,01,14**	**1,31,69**	**1,91,19**	..	**—59,50**	**—1·7**	..	**1,32,28**	..	**1,91,78**

	1936-37.	1937-38.	**1938-39.**
‡ Includes payments to Jaipur Durbar .	7,05	8,01	**7,69**
* Includes recoveries from Travancore Durbar .	1,08	17	**30**

‖ Includes capital expenditure on Tinnevelly Quilon (Indian State Section).

(*a*) Represent figures on account of Subsidized Companies.

(*b*) Includes 13,22 in respect of Jorhat Railway which has become the property of the Central Government from 1st April 1937.

C.—*General results of working of all Indian Railways.*

29. Traffic and mileage.—The more important statistical figures of traffic on all Indian Railways are summarised in the table below :—

Particulars.	Year.	Class I Railways.	Other Railways.	Total of all Railways.
(i) Total route mileage.	1934-35	36,235	4,726	40,961
	1935-36	36,307	4,751	41,058
	1936-37	36,125	4,943	41,068
	1937-38	36,134	4,942	41,076
	1938-39	**36,573**	**4,561**	**41,134**
(ii) Number of passengers originating (in thousands).	1934-35	442,275	33,580	475,855
	1935-36	448,865	34,267	483,132
	1936-37	454,743	34,863	489,606
	1937-38	483,933	37,352	521,285
	1938-39	**499,143**	**31,480**	**530,623**
(iii) Number of passenger miles (in thousands).	1934-35	16,516,075	777,754	17,293,829
	1935-36	16,871,303	801,055	17,672,358
	1936-37	16,950,704	833,982	17,784,686
	1937-38	17,933,580	913,666	18,847,246
	1938-39	**17,987,655**	**755,138**	**18,742,793**
(iv) Tons originating (in thousands).	1934-35	76,474	3,854	80,328
	1935-36	78,754	4,195	82,949
	1936-37	78,444	3,962	82,406
	1937-38	83,121	4,168	87,289
	1938-39	**84,367**	**3,994**	**88,361**
(v) Number of ton-miles (in thousands).	1934-35	19,414,104	261,047	19,675,151
	1935-36	19,653,041	258,105	19,911,146
	1936-37	20,525,770	263,367	20,789,137
	1937-38	22,479,591	*298,249	*22,777,840
	1938-39	**21,877,949**	**280,891**	**22,158,840**

* Revised figures.

NOTE.—With the separation of Burma from the 1st April 1937 the Burma Railways are no longer under the Indian Railway Board. Therefore, in order that the results from 1937-38 may be comparable with preceding years, figures in respect of the Burma Railways have been excluded from the results prior to 1937-38. The true figures for all Indian Railways (including Burma) for 1936-37 and the preceding years may be found in the report for 1936-37.

30. Analysis of earnings.—The total earnings of all railways, including those with which the Government of India are not directly concerned, amounted to Rs. 107·15 crores, of which Rs. 68·57 crores or 64·0 per cent. were from goods traffic, Rs. 30·73 crores or 28·7 per cent. from passenger traffic, and Rs. 7·85 crores or 7·3 per cent. from parcels, luggage and other miscellaneous items.

30.1. Passenger earnings.—Passenger earnings decreased by about 1 per cent. from Rs. 31·08 to Rs. 30·73 crores. The following table shows the numbers of and earnings from passengers separately for each class, for the four years prior to the war of 1914-18 and for the last seven years. Graphs are also inserted showing the number of passengers carried and the passenger miles by classes from 1923-24.

[Excluding Burma Railways.]

Year.	No. of passengers carried (in thousands).						Earnings from passengers (in thousands of rupees).					
	1st class.	2nd class.	Intermediate class.	3rd class.	Season and Vendor's tickets.	Total.	1st class.	2nd class.	Intermediate class.	3rd class.	Season and Vendor's tickets.	Total.
1910	630	2,617	10,702	294,908	23,943	332,800	55,82	74,12	94,99	13,90,22	15,58	16,30,73
1911	647	2,775	11,409	308,458	25,215	348,504	63,31	80,60	1,08,88	14,92,49	16,56	17,61,84
1912	640	2,840	10,508	331,820	26,320	372,128	59,83	79,84	91,37	16,13,25	17,23	18,61,52
1913-14	649	3,029	12,000	362,787	29,362	407,827	65,50	84,56	1,03,48	17,43,30	18,92	20,15,76
1932-33	397	4,980	10,871	464,438	*	480,686	75,09	1,41,76	1,15,14	27,06,90	*	30,38,89
1933-34	394	4,808	10,557	453,524	*	469,283	73,21	1,37,28	1,11,54	26,00,34	*	29,24,31†
1934-35	381	4,563	10,316	460,595	*	475,855	74,00	1,36,88	1,11,92	26,23,75	*	29,46,55
1935-36	361	4,498	10,469	467,804	*	483,132	75,21	1,41,07	1,11,35	26,36,49	*	29,64,12
1936-37	389	4,329	11,085	473,803	*	489,606	78,26	1,42,09	1,14,54	26,02,32	*	29,37,21
1937-38	397	4,217	11,324	505,347	*	521,285	79,16	1,44,40	1,22,17	27,62,69	*	31,08,42
1938-39	385	4,037	11,376	514,825	*	530,623	77,09	1,39,20	1,23,01	27,34,10	*	30,73,40

* The number of season and vendors' tickets and their earnings included under the respective classes; the former at the rate of 50 single journeys per month.

† Includes credit of 1,94 received from the East Indian Railway on account of passengers carried over the Delhi-Ghaziabad section for the period April 1925 to May 1931: details under different classes are not available.

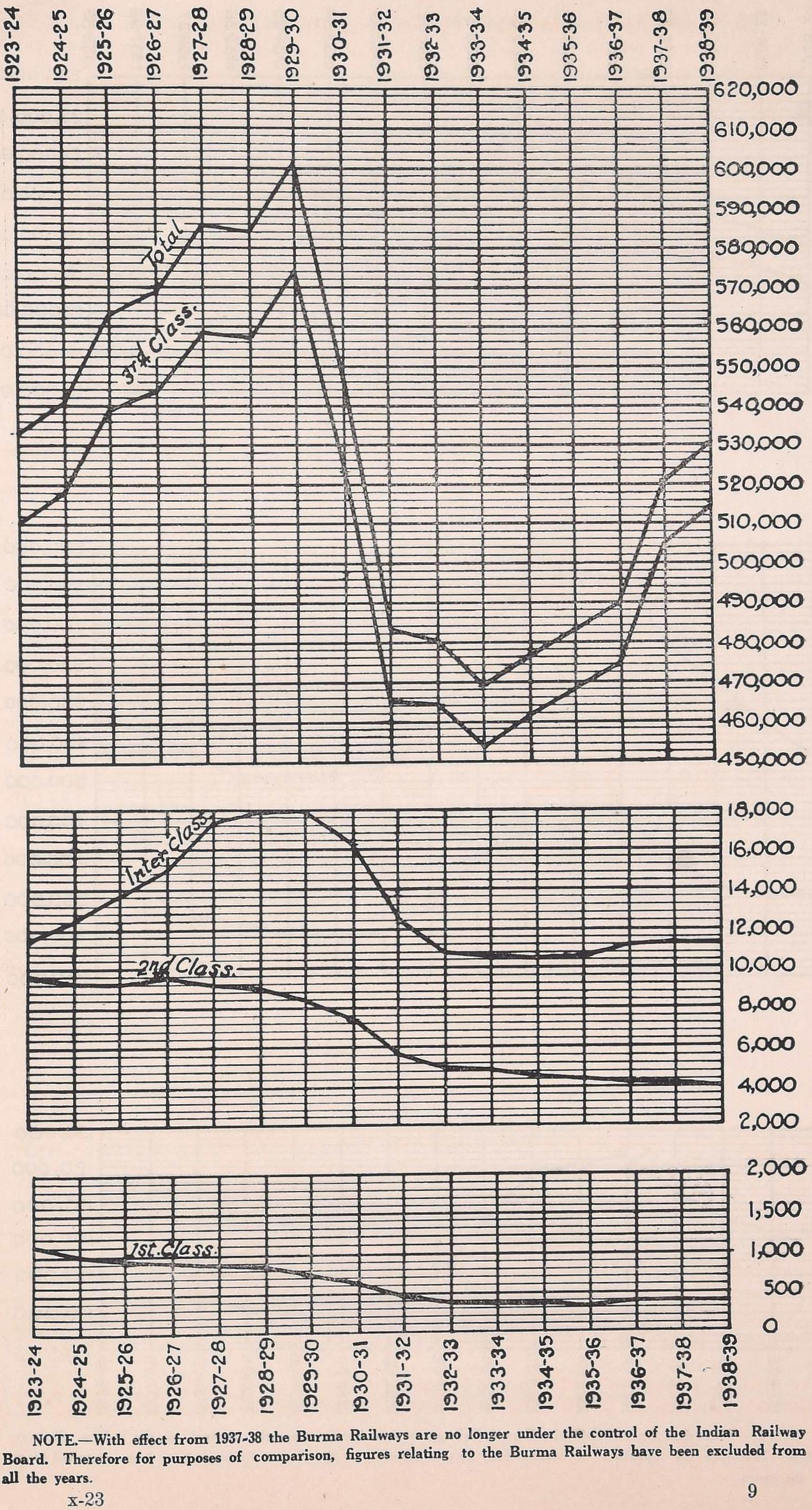
NOTE.—(i) In pre-war reports the sum of the numbers of passengers carried on each separate railway was shown as the total number of passengers carried on all railways. Passengers travelling over two or more railways or two or more gauges of the same railway were thus counted as two or more passengers. The actual number of passengers carried on all railways is in fact the same as the number of passengers originating and this figure has been adopted for "number of passengers carried" in the reports from 1923-24 onwards. As the number of passengers originating is not available prior to 1923-24, the figures of pre-war years have been modified.

(ii) With the separation of Burma from the 1st April 1937 the Burma Railways are no longer under the Indian Railway Board. Therefore, in order that the results for 1937-38 and after may be comparable with preceding years, figures in respect of the Burma Railways have been excluded from the results for 1936-37 and preceding years. The true figures for all Indian Railways (including Burma) for 1936-37 and the preceding years may be found in the Report for 1936-37.

As compared with 1937-38, the number of passengers carried on Class I Railways increased by 10 millions whereas the passenger earnings decreased

NUMBER OF PASSENGERS CARRIED ON INDIAN RAILWAYS
(EXCLUDING THE BURMA RAILWAYS).

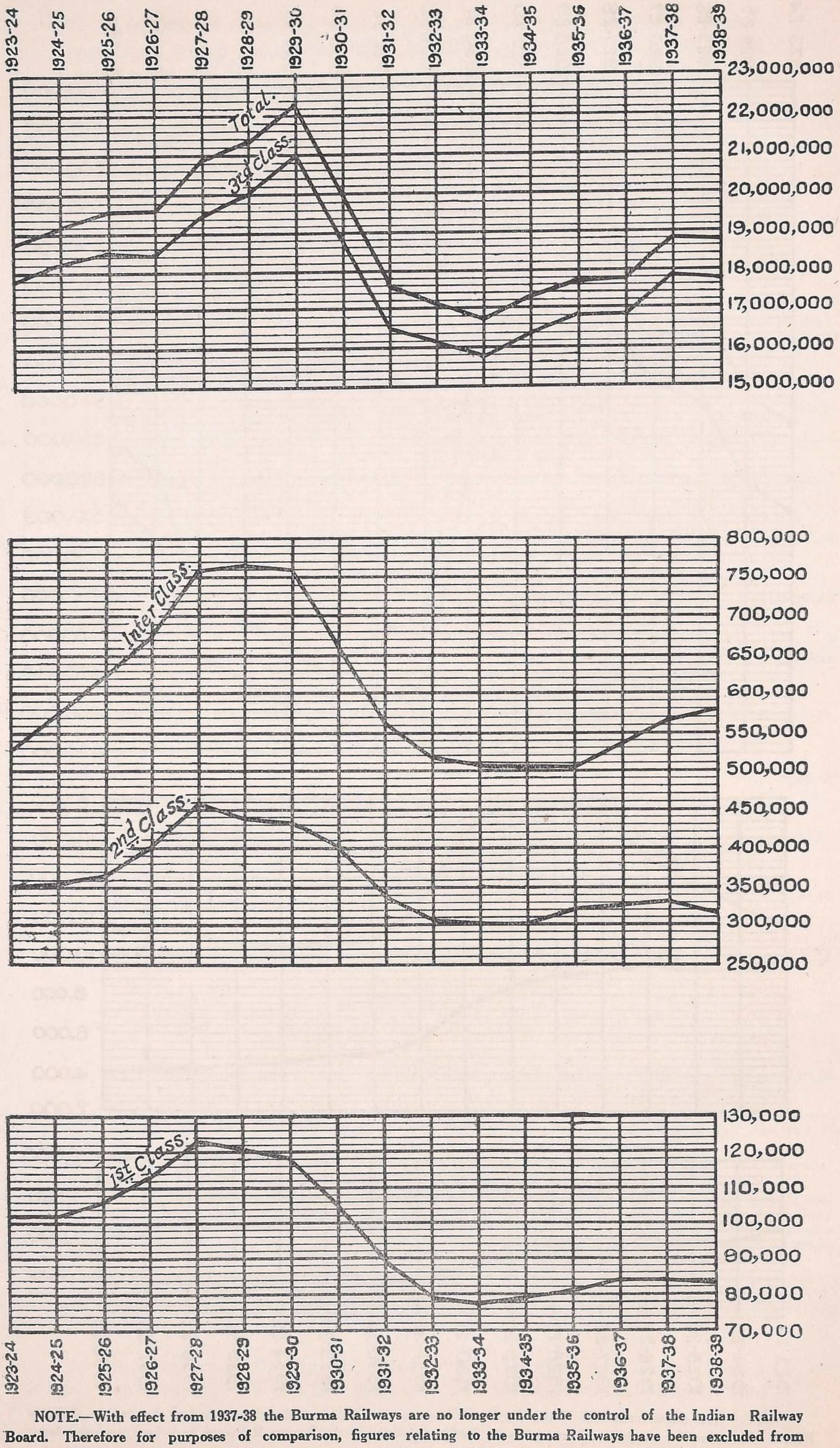
IN THOUSANDS



NOTE.—With effect from 1937-38 the Burma Railways are no longer under the control of the Indian Railway Board. Therefore for purposes of comparison, figures relating to the Burma Railways have been excluded from all the years.

NUMBER OF PASSENGER MILES ON INDIAN RAILWAYS
(EXCLUDING THE BURMA RAILWAYS).

IN THOUSANDS



NOTE.—With effect from 1937-38 the Burma Railways are no longer under the control of the Indian Railway Board. Therefore for purposes of comparison, figures relating to the Burma Railways have been excluded from all the years.

by Rs. 31 lakhs. The following statement shows the variations on each railway :—

(Figures in thousands.)

Railway system.	Variations as compared with 1937-38. Number of passengers carried.	Earnings.
	No.	Rs.
Assam Bengal	+776	+5,01
Bengal and North-Western . . .	+287	+45
Bengal Nagpur	+293	-1,94
Bombay, Baroda and Central India . .	+5,264	+3,75
Eastern Bengal	+163	+4
East Indian	+997	+4,89
Great Indian Peninsula	+3,342	+5,50
Jodhpur	-33	-2,12
*Madras and Southern Mahratta . . .	-184	-15,11
Mysore State	+2,378	+9,91
H. E. H. the Nizam's State . . .	+491	-23
North Western	-3,358	-29,71
Rohilkund and Kumaon	+29	+24
South Indian	-179	-11,32
Total .	+10,266	-30,64

* The 1937-38 results included nine months' figures for the sections Bangalore City-Harihar and Yesvantpur-Hindpur, which sections were handed over to the Mysore State Railway on the 1st January 1938.

It will be observed that the number of passengers carried increased on all except the Madras and Southern Mahratta, North Western, South Indian and Jodhpur Railways; the main decline being in the first three and chiefly in the third class. This was due to :—

Madras and Southern Mahratta Railway.—A cyclone in the area served by the North-east line and famine conditions in many districts due to failure of the monsoon, with a consequent low level of prices. The 1938-39 results also appear to disadvantage by comparison with the previous year, by reason of the inclusion in the 1937-38 figures of nine months' earnings for sections handed over to the Mysore State Railway on the 1st January 1938.

North Western Railway.—Severe road competition and general trade depression resulting in reduction of spending power.

South Indian Railway.—Failure of the North-east monsoon resulting in adverse economic conditions; also few festivals of importance during 1938-39.

The anomaly of an increase in the number of passengers carried with a decrease in earnings on the Bengal Nagpur and His Exalted Highness the Nizam's State Railway, as compared with the previous year, was due to :—

Bengal Nagpur Railway.—A large sale of intermediate and third class tickets at "reduced fares" counteracted by a heavy fall in earnings from first, second and third class tickets at "full fares".

The following were the principal factors contributing to an increase in passenger traffic :—

(*a*) In 1938 the Easter holidays occurred in April while in 1937 they were in March.

(*b*) An increase in third class Durga-Pooja holiday traffic and a general increase in week-end ordinary return ticket traffic.

(*c*) There was a heavy rush of local passengers to Bir Shibpur for bathing in "Gora Chand" tank, for whom 108 special trains were run.

(*d*) A special festival occurred at Salur after a lapse of 15 years.

The decrease in earnings arose from:—

(a) a considerable fall in labour movement from the industrial centres in the Central Provinces, Vizagapatam District and Orissa;

(b) restricted movement due to a cholera epidemic in parts of the Nagpur District; and

(c) a considerable reduction in the sale of tickets at "Full Fares".

His Exalted Highness the Nizam's State Railway.—The increase in number carried and decrease in earnings were due mainly to more people travelling on tickets at reduced rates and a disproportionately greater fall in earnings from full fares.

30.2. Goods earnings.—The earnings from goods traffic on all railways decreased by Rs. 9 lakhs. There were heavy decreases under fuel (mainly coal), metallic ores, wheat, molasses and gram and pulses, which were offset by marked increases under oilseeds, general merchandise, fodder, provisions and iron and steel, wrought.

The tonnage of, and earnings from, the principal commodities carried by the Class I Railways during 1938-39 as compared with the preceding year, are shown in the statement below:—

Commodity.	1937-38.*		1938-39.		Increase + Decrease — in earnings. Rs. (in lakhs).
	No. of tons originating (in millions).	Rs. (in crores).	No. of tons originating (in millions).	Rs. (in crores).	
Decreases.					
Fuel for public and foreign railways.	22·89	12·10	22·74	11·59	—51
Metallic ores	3·97	1·41	3·64	1·06	—35
Wheat	1·86	2·67	1·76	2·40	—27
Molasses	1·01	1·20	0·88	1·01	—19
Gram and pulse and other grains.	2·57	3·47	2·57	3·31	—16
Military traffic	0·40	0·40	0·32	0·31	—9
Marble and stone	2·70	0·99	3·27	0·91	—8
Fruits and Vegetables, fresh.	4·05	1·34	3·12	1·27	—7
Salt	1·40	1·83	1·35	1·78	—5
Wood, unwrought	1·29	0·89	1·26	0·85	—4
Cotton manufactured	0·71	2·60	0·72	2·59	—1
Kerosene oil	0·77	1·59	0·80	1·58	—1
Increases.					
Oilseeds	2·39	3·03	2·74	3·60	+57
Other commodities	10·07	11·43	10·50	11·77	+34
Fodder	0·93	0·64	1·32	0·87	+23
Provisions	1·15	2·87	1·25	3·06	+19
Iron and Steel, wrought	1·39	2·49	1·50	2·63	+14
Rice	3·17	3·30	3·51	3·39	+9
Sugar, refined and unrefined.	1·07	2·11	1·19	2·16	+5
Materials and stores on revenue account.	13·32	2·91	13·80	2·95	+4
Tobacco	0·31	0·84	0·33	0·88	+4
Petrol	0·30	1·14	0·32	1·17	+3
Railway materials	2·96	0·45	2·96	0·47	+2
Live-stock	0·17	0·54	0·18	0·55	+1
Jute, raw	1·00	1·17	1·03	1·18	+1
Cotton, raw	1·00	2·88	1·03	2·89	+1
Manures	0·27	0·19	0·28	0·19	..
TOTAL	83·12	66·48	84·37	66·42	—6

* Excludes Mysore State Railway for which figures by commodities are not available—tons originating being 0·45 million and earnings Rs. 20 lakhs.

CHAPTER III.

NEW CONSTRUCTION AND ENGINEERING WORKS.

31. Capital Expenditure.—At the end of March, 1939, the total capital at charge on all railways, including those under construction, amounted to Rs. 847·82 crores, of which Rs. 755·26 crores was capital at charge on State-owned Railways inclusive of premia paid in the purchase of Companies' lines. The remainder, Rs. 92·56† crores, represented capital raised by Indian States, Companies and District Boards.

The capital at charge of State-owned Railways is composed as follows :—

	£
Liability and debt incurred in purchase of Railways .	150,106,630
Less liability and debt cancelled by the operation of Annuities and Sinking Funds	– 29,284,941
Net amount outstanding	120,821,689*
	Rs. (omitting 000)
Direct expenditure by Government	5,94,16,64
The above sterling figure converted into rupees . .	1,61,08,96*
Grand Total .	7,55,25,60

By far the greater portion of this amount, namely Rs. 7,25,37,57,000 is Government capital and only 1-24th or Rs. 29,88,03,000 is owned by Companies. These figures include Rs. 34,01,14,000 on account of capital expenditure to the end of March, 1939, on strategic lines.

31.1. The total capital outlay on all railways during 1938-39 was Rs. 3·29 crores, of which Rs. 2·33 crores were spent on State-owned Railways. The following statement shows how this outlay of Rs. 2·33 crores was distributed between open line works, rolling-stock and new line, similar figures being given for the previous four years and for 1913-14.

Year.	Open Lines.			New lines.	Grand Total.
	Works including Stores and general charges.	Rolling-stock.	Total.		
	Rs. crores.	Rs. crores.	Rs. crores.	Rs. crores.	Rs. crores.
1913-14§	9·30	7·31	16·61	1·86	18·47
1934-35§	0·76	—0·69	0·07	0·18	0·25
1935-36§	2·24	0·05	2·29	0·29	2·58
1936-37 including Burma .	1·08	—0·80	0·28	..	0·28
1936-37 excluding Burma .	1·16	—0·66	0·50	..	0·50
1937-38	0·63	—0·06	0·57	—0·05	0·52
1938-39	1·78	0·49	2·27	0·06	2·33

* £2,575,000 representing share capital of the Great Indian Peninsula Railway paid off during 1925-26 has been converted at the average rate of exchange for that year and the balance of £118,246,689 at the rate of 1*s.* 6*d.* to the rupee.

† Includes Rs. 8,87,000 representing outlay on the Alnavar-Dandeli Railway.

§ Includes Burma.

NOTE.—A part of the capital expenditure on Provincial railways (14,61) shown separately in previous years has been included under direct expenditure by Government (13,22) and the balance (1,39) representing expenditure on a siding has been omitted.

31.2. The distribution of the capital outlay in 1938-39 over the different State-owned lines is shown in the summary below :—

(Figures in lakhs.)

Railways.	Open Lines.			New lines.	Grand Total.
	Works, etc.	Rolling-stock.	Total.		
	Rs.	Rs.	Rs.	Rs.	Rs.
Bengal Nagpur . . .	39	10	49	..	49
Bombay, Baroda and Central India	26	—2	24	..	24
Eastern Bengal . . .	2	20	22	..	22
East Indian	47	18	65	—3	62
Great Indian Peninsula . .	—24	—14	38	..	—38
Madras and Southern Mahratta .	—2	3	1	..	1
North Western . . .	36	—10	26	4	30
South Indian	18	8	26	—1	25
Other Indian Railways . .	36	16	52	6	58
Total .	1,78	49	2,27	6	2,33

32. Lines opened during 1938-39.—98·68 miles of railways were opened to public traffic during the year, the whole of this mileage being on the 3′ 3⅜″ gauge.

Details regarding the sections opened are given below :—

Name of line.	Gauge.	Mileage.	Owner.	Working Agency.	Date of opening.
(i) Jankampet-Bodhan . .	3′ 3⅜″	12·04	Indian State Line	H. E. H. the Nizam's State Railway.	1st November 1938.
(ii) Sadulpur-Rewari (portion) .	3′ 3⅜″	56·44	Ditto .	Bikaner State Railway.	Sadulpur-Loharu Section (31 miles) opened on 11th December 1938. Loharu-Mohindargarh section (25·44 miles) on 23rd February 1939.
(iii) Prachi Road-Kodinar .	3′ 3⅜″	15·65	Ditto .	Gaekwar's Baroda State Railway.	6th April 1938.
(iv) Khambhalia-Salaya . .	3′ 3⅜″	8·81	Ditto .	Jamnagar and Dwarka Railway.	13th January 1939.
(v) Badeshwar-Rozi . .	3′ 3⅜″	5·74	Ditto .	Ditto .	26th May 1938.

33. Mileage of Lines sanctioned in 1938-39.—During the year under review sanction was accorded to the construction of new lines totalling 298·12 miles :—

5′ 6″ gauge	83·98 Miles.
3′ $3\frac{3}{8}$″ gauge	214·14 ,,

34. Lines under active construction on 31st March 1939.—At the end of the financial year 1938-39 the mileage of new lines under active construction was as follows :—

	Miles.
5′ 6″ gauge	88·21
3′ $3\frac{3}{8}$″ gauge	328·23
Total .	416·44

The lines under active construction are given in the table below, which also shows the construction agencies and the progress reached :—

Name of line.	Gauge.	Mileage actually under construction.	Working Agency.	*Progress of work (proportion completed on 31st March 1939).
(i) Phalodi-Pokaran	3′ $3\frac{3}{8}$″	35·40	Jodhpur Railway . .	0·11
(ii) Khadro-Nawabshah . . .	3′ $3\frac{3}{8}$″	30·72	Ditto . .	0·45†
(iii) Sagar-Talaguppe	3′ $3\frac{3}{8}$″	9·43	Mysore State Railway .	0·30
(iv) Mudkhed-Adilabad . . .	3′ $3\frac{3}{8}$″	100·69	His Exalted Highness the Nizam's State Railway.	0·06
(v) Sadulpur-Rewari (portion) . .	3′ $3\frac{3}{8}$″	31·01	Bikaner State Railway .	0·15
(vi) Kunkavav-Derdi . . .	3′ $3\frac{3}{8}$″	7·30	Gondal Railway . .	0·60
(vii) Jhunjhunu-Loharu . . .	3′ $3\frac{3}{8}$″	35·80	Jaipur State Railway .	..
(viii) Sikar-Bissau	3′ $3\frac{3}{8}$″	47·88	Ditto	..
(ix) Hadmatia Dhrol-Jodiya Extension.	3′ $3\frac{3}{8}$″	30·00	Jamnagar and Dwarka Railway.	..
(x) Sind Right Bank Feeders—				
(a) Larkana to Silra Shahdad Kot.	5′ 6″	32·14	North-Western Railway .	0·06
(b) Silra Shahdad Kot to Jacobabad.	5′ 6″	51·76	Ditto .	0·06
(xi) Cochin Railway Extension (to link with the Harbour Railway)—Idappalli Ernakulam Extension.	5′ 6″	4·31	South Indian Railway .	0·55
TOTAL .	..	416·44		

* 0·30 signifies that 3/10th of the work has been done.
0·50 signifies that half the work has been done
1·00 signifies completion of the work.
† Khadro-Pritamabad section (10·06 miles) opened for goods traffic on the 10th March 1939.

35. Lines sanctioned in 1938-39.

35.1. Khadro-Nawabshah.—The Khadro-Nawabshah Railway was mentioned in last year's report under "Surveys". The construction of the line by the Jodhpur Railway administration on the metre gauge, a distance of 30·72 miles, was sanctioned in October 1938.

The bridges over the Jamrao, Nasrat and Bucheri Main Canals and also over certain other minor canals were completed during the canal closure in December 1938.

The line up to Pritamabad, a distance of 10·06 miles from Khadro was opened for goods traffic in March 1939 with a view to affording transport facilities to a neighbouring sugar factory.

35.2. Jhunjhunu-Loharu.—The Jhunjhunu-Loharu Extension of the Jaipur State Railway was sanctioned in November 1938. It is a metre gauge line of 35·62 miles, and will provide much needed transport facilities near the northern boundary of the State and on to Loharu.

35.3. Sikar-Bissau.—Another extension on the metre gauge of the Jaipur State Railway from Sikar to Bissau, a distance of 47·88 miles, was sanctioned for construction in November 1938. The line will be entirely within Jaipur State territory and will serve the important towns of Fatehpur, Lachhmangarh and Ramgarh.

35.4. Hadmatiya-Jodiya.—The Hadmatiya-Jodiya section of the Jamnagar-Dwarka Railway, 27·02 miles on the metre gauge, was sanctioned for construction in August 1938. This line will serve an area covering 32 villages and towns and will also give an outlet to Jodiya, an important sea town. The line is expected to be opened for all kinds of traffic in March 1940, and with its opening Jodiya is likely to become an important centre of seaborne trade.

35.5. Sind Right Bank Feeders.—This line was referred to in the last year's report as being necessary for the provision of adequate facilities for transporting agricultural produce from the right bank of the Indus.

Sanction to the construction of the Sind Right Bank Feeders Railway, 83·90 miles in length, was accorded in September 1938.

The project consists of the conversion to broad gauge of the existing narrow gauge line from Larkana to Silra Shahdadkote, a distance of 32·14 miles, and the construction of a new broad gauge line from the latter station to Jacobabad, a distance of 51·76 miles.

The work was taken in hand by the North Western Railway administration in October 1938.

35.6. Sagar-Talaguppe.—The construction of the Sagar-Talaguppe line by the Mysore Government was sanctioned in June 1938. It is a metre gauge line running westward of Sagar for a distance of 9·80 miles and will terminate at the village of Talaguppe. Besides opening up an undeveloped and backward tract of country, this line, it is reported, will form the cheapest means of transport for the materials required in connection with a Hydro-Electric Scheme.

Work on the line was started by the Mysore State Railway during December 1938.

36. Surveys.—The surveys carried out during the year were of no outstanding importance, and were confined in the main to re-investigation of projects previously surveyed.

Thus on the Bengal Nagpur Railway a re-survey was undertaken of the Noamundi-Joda line which had previously been surveyed in 1935-36. This line will tap an area with important ore deposits and as the country is broken and difficult with steep ranges rising to about 3,000 feet in height, it was felt that some expenditure on improving the alignment already selected would be amply repaid in reducing cost of construction. The results of the re-survey are reported to be very satisfactory and substantial economies in sub-grade work may be expected if the line comes to be built, as is not unlikely.

The North Western Railway administration carried out a preliminary engineering and traffic survey for the conversion of the Irrigation Department siding from Sarai Alamgir to Chechian into a "C" class railway line. The work was undertaken at the request of the Kashmir and Jammu Government,

who want the line for the development of the country and to serve a paper mill proposed to be erected at Chechian.

The Jodhpur Railway carried out and completed a final location survey for a railway line from Phalodi to Pokaran the construction of which has since been taken in hand, and also a final location survey for a realignment of the Balotra-Pachpadra line *viâ* Pachpadra City to the old Pachpadra station.

A detailed survey for the retirement of the main Eastern Bengal Railway line between Ishurdi and Abdulpur to meet the possibility of an attack by the Ganges on the existing line near the Hardinge Bridge, was sanctioned and started during the year. The Railway administration also completed the preparation of the detailed project and estimates for the bridge over the Brahmaputra and Amingaon station, based on the results of the final location survey reported last year.

37. Important lines under construction during 1938-39.

37.1. Kunkavav-Derdi.—The Kunkavav-Derdi line of the Gondal Railway, a distance of 7·30 miles on the metre gauge, is under construction.

37.2. Phalodi-Pokaran.—The final location survey of the Phalodi-Pokaran Railway, 35·4 miles on the metre gauge, was completed in February 1939 and work on formation was started by the Jodhpur Railway administration in March 1939.

37.3. Mudkhed-Adilabad.—The Mudkhed-Adilabad Railway, a length of 100·69 miles on the metre gauge, is under construction by His Exalted Highness the Nizam's State Railway. Construction work was started early in February 1939.

37.4. Shoranur-Cochin Railway Harbour Extension (South Indian Railway).—Mention was made of this work in the report for 1937-38. During the year under review further progress was made and about 50 per cent. of the work was completed.

38. Lines opened during 1938-39.

38.1. Prachi Road-Kodinar.—The construction of the Prachi Road-Kodinar line by His Highness the Gaekwar's Baroda State Railway was completed and opened for all kinds of traffic on the 6th April 1938. This section consists of 16·10 miles of metre gauge track.

38.2. Sadulpur-Rewari.—This line was mentioned in the last year's report as under construction. The work on the line progressed satisfactorily and the Sadulpur-Loharu Section, 31 miles in length, was opened to public traffic on the 11th December 1938.

The second section, *viz.*, Loharu-Mohindargarh, 25·44 miles, was opened on the 23rd February 1939. Owing to famine conditions it was considered desirable to bring these sections into early use.

The third section, *i.e.*, from Mohindargarh to Rewari, 30·86 miles, is under construction.

The completion of the line will provide a useful chord connection between Sadulpur and Rewari and will open up an area which is devoid of any easy means of communication.

38.3. Badeshwar-Rozi.—The Badeshwar (Rozi Block)-Rozi section of the Jamnagar-Dwarka Railway, a length of 5·74 miles on the metre gauge, was opened to public traffic on the 26th May 1938.

38.4. Khambhalia-Salaya.—The Khambhalia-Salaya branch of the Jamnagar-Dwarka Railway, a length of 7·85 miles on the metre gauge, was opened to public traffic on the 13th January 1939.

38.5. Jankampet-Bodhan.—The Jankampet-Bodhan section of His Exalted Highness the Nizam's State Railway, which was described in the last year's report, was opened to public traffic on the 1st November 1938. It is a metre gauge line of 12·04 miles.

39. Important new works.—No new works of any great magnitude were undertaken during the year under review.

40. Open line improvements.

40.1. Coimbatore Station, South Indian Railway.—The scheme for remodelling this station was described in the report for 1935-36, during which year work on the first stage was sanctioned. The foot-bridge has been completed and opened for use. 50 per cent. of work on the road under-bridge and station building was also completed during the year. The sub-way, the power-signal cabin and the permanent-way required for the diversion of the main line have been completed except for some minor items.

In the report for 1936-37 mention was made of works agreed to be carried out in stage II of this remodelling. During the year sanction was accorded to the work being undertaken on stage II at a cost of Rs. 16·14 lakhs. Certain works on the extension of the road under-bridge and one or two other items have been completed.

40.2. Remodelling, signalling and interlocking Sonepur station yard.—As the existing accommodation in Sonepur station yard was insufficient to cope with the traffic and it was anticipated that the Sonepur Chupra doubling now in progress would lead to a further increase in traffic, it was decided to remodel the yard. The scheme, which is estimated to cost Rs. 1,81,790 was accordingly sanctioned during the year under review, and includes provision for the following works :—

(i) re-alignment of Bunwarchak line;

(ii) lengthening the sidings and providing trap sidings to enable 80 wagon load goods trains to run;

(iii) providing a saloon siding;

(iv) dismantling existing boundary wall and re-building retaining wall instead;

(v) dismantling and re-building north-east passenger platform wall;

(vi) building a retaining wall in the vicinity of the parcel office;

(vii) extending east sub-way to accommodate one more track; and

(viii) extending goods platform and ramp and dismantling and re-building horse and motor loading ramps.

It is also proposed to provide mechanical working and interlocking and electrical control of all points and signals for the passenger yard, routes and for the goods reception and departure lines.

The work is likely to be completed within eighteen months.

The growth of both passenger and goods traffic has been rapid at Dehri-on-Sone, a station on the East Indian Railway. To some degree, this development is due to the construction of new cement and paper mills at this place. The existing facilities have been found insufficient to deal with the present volume of increased traffic, and with a view to providing adequate facilities, sanction was accorded in July 1938 to a scheme for remodelling Dehri-on-Sone at an estimated cost of Rs. 2·90 lakhs.

40.3. Viramgam—Remodelling the yard and rebuilding station, Bombay, Baroda and Central India Railway.—This is a junction station with the Kathiawar Railways and the traffic which it was required to handle had considerably increased owing to the development of the Kathiawar ports. The present station building was burnt during riots in 1919 and the question of improving the building and enlarging the station generally had been mooted many times. It was recognised that the broad gauge and metre gauge passenger platforms were inadequate, particularly since the introduction of the Land Customs in 1927 requiring examination of the luggage of all passengers arriving from Kathiawar. The matter came to a head in 1936 when the Senior Government Inspector commented on the inadequacy of the existing accommodation. A remodelling scheme was accordingly drawn up providing for better

accommodation to remove congestion. The new arrangements will include rebuilding of the station premises, an additional metre gauge island platform and the widening of the existing island platform, as also adequate signalling arrangements. The entire scheme is estimated to cost Rs. 7·26 lakhs.

40.4. Moghalsarai—Additions and alterations to the locomotive running shed and yard in connection with intensive use of locomotives.—With a view to introduce the intensive use of locomotives on the Mail and Express services it has been decided to concentrate all the necessary engines at Moghalsarai shed to enable the entire Mail and Express service on the East Indian Railway being worked from this shed instead of from five different sheds, *e.g.*, Jhajha, Gomoh, Cawnpore, Lucknow and Moradabad as at present.

Apart from a better engine usage and maintenance, saving in engines and the corresponding reduction in staff, the effect of the Moghalsarai Concentration Scheme will be that Jhajha will be more or less closed down as a home-station shed, Gomoh will be considerably reduced in status, and the amount of expenditure involved in the remodelling of Cawnpore shed with a view to introducing the intensive use of goods and passenger engines on the Allahabad Division will be reduced.

From calculations made it is anticipated that the concentration scheme will result in a saving of 29 engines which means an annual saving of Rs. 1,25,599. In the early stages of the scheme 8 of these engines will be kept as stand-byes at certain sheds to meet emergencies. This, however, will only be temporary and as a precautionary measure and these engines will be withdrawn as soon as it is found that the scheme is working satisfactorily. From the saving of engines alone, the scheme is likely to give a return of 11·17 per cent. on the total capital expenditure. The scheme which is estimated to cost Rs. 10,06,036, was sanctioned on 12th December 1938 and will take a year to complete.

40.5. New locomotive shed at Bitragunta, Madras and Southern Mahratta Railway.—Mention was made of this work in the report for 1937-38. During the year under review further progress was made and it is anticipated that the work will be finished shortly. Sanction was also accorded to the provision of an additional line in the traffic yard at Bitragunta at an estimated cost of Rs. 20,000. A committee consisting of the Deputy Chief Operating Superintendent, Deputy Chief Engineer (Broad Gauge) and the Production Engineer has also been appointed to examine the scheme for improving the running shed at Rajahmundry.

40.6. Raising, doubling and bridging the main line between Sonepur and Chupra, Bengal and North-Western Railway.—A full description of this scheme was given in the last year's report. Due to delay on the part of the civil authorities in handing over to the railway the land required for the scheme only about 10 per cent. of the work could be completed during the year under review. It is expected that the work will be finished during 1940-41.

40.7. Permanent-way renewals—

(i) *Madras and Southern Mahratta Railway.*—On this railway an estimate amounting to Rs. 9,10,000 was sanctioned for the renewal of 22·50 miles of 75 lb. Double and Bull Headed track including loops, between Guntakal and Raichur section with 90 lb. rails. This renewal was found necessary on account of the running of XD and XB engines on this section and also on account of the fact that the existing rails whose life varies from 47 to 40 years were considerably worn out. The work is expected to be finished during the coming year.

(ii) *Jodhpur Railway.*—On the Jodhpur Railway a provision was made for the renewal of 30 miles of Jodhpur-Hyderabad section of the main line with 60 lb. (B. S. Revised) rails. The work is estimated to cost about 5½ lakhs of rupees. The released 50 lb. rails are being utilised for the construction of the Khadro

Nawabshah Railway. The relaying is to be done in two instalments, 15 miles being programmed for the year under review and the remaining 15 miles to be taken in hand during the early part of the following year.

(iii) *Assam Bengal Railway.*—As a result of the increased number of trains and the higher speed of passenger trains running on the northern section of the Assam Bengal Railway, it was found that the track had deteriorated to a considerable extent owing to the light weight rails and restrictions had, therefore, to be imposed on the running of four-wheeled goods stock and tank wagons. A provision was accordingly made for the relaying of 136 miles of track with 60 lb. rails between Manipur Road and Safrai and between Digaru and Gauhati. Considerable progress has been made with the work during the year under review and it is likely to be completed during the next year.

41. Important works sanctioned.

41.1. Indian Railway Conference Association staff quarters.—As a result of the construction of a new office building for the Indian Railway Conference Association in New Delhi, provision of quarters for the staff of that office became a necessity which was accentuated by the condemnation of some old temporary quarters at Timarpur hitherto occupied by the clerks. A site sufficient for 60 quarters was available on railway land near Thompson Road, New Delhi, and it was decided to construct 60 quarters to house the staff. For the present, however, these are to be allotted half and half to the Indian Railway Conference Association and to the Railway Clearing Accounts Office. An estimate amounting to Rs. 2·32 lakhs for eight senior type and 52 junior type quarters was sanctioned in August 1938 and the work completed in March 1939.

41.2. New Hospital at Lahore.—Sanction was accorded to an expenditure of Rs. 1·98 lakhs on the construction of a new hospital at Lahore. The scheme provides accommodation for 75 indoor patients, an outpatient department, an operating theatre and other requirements of the medical branch including additional staff quarters. This work when completed, will result in a saving of Rs. 12,000 per annum which is now paid to the Provincial Government in respect of reservation of beds in the Mayo Hospital.

In addition to this about Rs. 80,000 were spent on the provision of equipment and in improving and bringing up to date some of the hospitals on the East Indian, Eastern Bengal, Great Indian Peninsula and North Western Railways.

41.3. Signalling and Interlocking Muzaffarpur station yard, Bengal and North-Western Railway.—Following the remodelling of the Muzaffarpur station yard, an estimate was prepared to cover the cost of providing mechanical working, interlocking and electrical control of all points and signals for the passenger yard and routes, and for the goods running lines. The estimate amounting to Rs. 1·12 lakhs was sanctioned in November 1938.

41.4. East Indian Railway—Reconditioning of Buckland Road Overbridge.—Mention was made of this work in the report for the year 1936-37. During the year under review good progress was made on this work which is now expected to be completed at a cost of Rs. 2,15,779.

41.5. Eastern Bengal Railway—Aie Bridge.—Due to heavy rain in July 1938. the Aie river which is crossed at mile 247 G by a bridge of five spans of 100 feet and two spans of 40 feet had risen rapidly and suddenly changed its course having apparently shortcircuited and cut across a loop just above the bridge site with the result that the east abutment of the bridge together with the entire east guide bund was washed away and there was a breach of about 400 feet in the railway embankment. The rails, to which the shore span remained attached, were left hanging over the gap and a 40 feet girder was left suspended from a pier where the breach had occurred. This span

was subsequently recovered with the exception of some bracings which fell into the river. A temporary pile-bridge was made for diversion of traffic. An estimate was sanctioned to extend the Aie guide bund and to replace the washed away pier by another pier at a new site and for replacing two 40 feet spans by one 100 feet span thus increasing the original waterway.

41.6. Delhi Refuse Disposal Scheme.—As an instance of a " deposit " work done through the agency of a railway administration, mention may be made of the Delhi Refuse Disposal Scheme which was carried out by the North Western Railway administration on behalf of the Delhi Municipality. The scheme was to collect the refuse of the Delhi City at two special railway sidings and to transport it about 10 miles outside the City by rail *viâ* Badli for deposit in the Horse Shoe Jhil near the Delhi-Ambala road. For this purpose a project was worked out by the Delhi Municipality in consultation with the North Western Railway administration and accepted by the Government of India. An estimate, amounting to Rs. 12·23 lakhs, was accordingly sanctioned in November 1936 for providing sidings, platforms, quarters and roads, etc., at Kutab Road, Subzimandi and Badli. A supplementary estimate amounting to Rs. 95,182 for certain additional works was sanctioned in January 1938. The work has practically been completed with the exception of two works still in contemplation, *viz.*, (1) providing a parallel service road behind the railway boundary wall from Pull Mithai southwards and also from near the New Delhi Station northwards to the refuse station for the passage of refuse carts thereon avoiding the main thoroughfare, and (2) supply of good drinking water at the refuse disposal dump.

41.7. Kistna Canal Railway Station, Madras and Southern Mahratta Railway.—The volume of traffic in the Madras—Bezwada section is showing considerable increase and certain proposals have been put forward by the Madras and Southern Mahratta Railway to handle the traffic offering without restriction. As the consideration of these proposals in detail was likely to take some time the railway administration suggested that the improvements required at Kistna Canal railway station, which were part of the original scheme, be carried out forthwith to relieve the situation to some extent. An estimate of Rs. 52,000 was, therefore, sanctioned during the year. It provides *inter alia* for the provision of a 40-ton weigh-bridge, which will facilitate weighment of all coal loads, besides being available for other merchandise.

42. Welding of rails.—During the year arrangements were made to carry out an experiment in the welding of rails in which connection there has been a considerable development in other countries. The object is to reduce as far as possible the number of fish-plated joints in the rails which occur at present and which are a source of weakness, noise in running and wear and tear of rolling stock. Arrangements were made to weld 1,000 joints by the alumino-thermic process which has been so largely developed in France and an expert was brought out for the purpose. The experiment has been spread over three railways, the Great Indian, North Western and East Indian, and in due course reports will be obtained as to its success.

43. Bridge Strengthening Programme.—The following are some of the more interesting works under this head which were in hand or completed during the year :—

43.1. Assam Bengal Railway.—The provision of additional stiffeners and sway bracings to bridges on the Assam Bengal Railway, to permit of the use of YD engines at higher speeds was completed during the year, and considerable work was also done on the renewal of cracked bed stones and crushed pier tops of bridges on the Hill section of this railway.

43.2. Bombay, Baroda and Central India Railway.—The work of strengthening the girders of the Chambal, Chambala and Gambhir bridges by electric welding, which was reported on last year, was completed and the girders of bridges between Ajmer and Khandwa were renewed with the exception only of those of the Ravine Viaduct No. 1 on the Mhow-Kalakund section and of the Nerbada bridge on the Kalakund-Khandwa section.

43.3. Eastern Bengal Railway.—The regirdering of the Gorai bridge was completed and weak girders on several bridges were renewed. The more important works were the provision of a new bridge of two 40 feet spans on the Ishurdi-Sirajganj section and the replacement by a 100 feet span of the two 40 feet spans of the Sitlai bridge, Abdulpur-Nawabganj section which were damaged by floods during the year.

43.4. East Indian Railway.—The programme on this railway covered *inter alia* the reconditioning of some 25 small bridges, the regirdering of three and the rebuilding of eight.

43.5. Great Indian Peninsula Railway.—The Seena bridge consisting of 6 × 90 feet spans was fully regirdered, and the renewal of the girders of the 20 feet and 60 feet spans on the Jhansi-Cawnpore section was also completed.

43.6. Madras and Southern Mahratta Railway.—The work of strengthening the main girders on 11 × 150 feet spans of the Pennar bridge on the Guntakal-Dharmavaram Section, and of strengthening the other bridges on the same section for Group " D " engines was completed at a total cost of Rs. 1·52 lakhs and progress was made on renewing the flooring and track over the Kistna bridge and on regirdering the 14 × 64 feet spans of bridge No. 80 also on the Guntakal-Dharmavaram section.

43.7. North Western Railway.—The old iron trough and timber roadway of the Sukkur Channel bridge was replaced by a reinforced concrete deck cast *in situ*, and welded steel stools were substituted for the original longitudinal rail bearing timbers on this bridge. A new bridge of 2 × 50 feet girders was also built on the Khanewal-Shorkot Road section.

An estimate amounting to Rs. 14·15 lakhs was also sanctioned in May to cover the cost of renewing the 17 × 150 feet spans of the Victoria bridge over the Jhelum river between Malakwal and Haranpur to M. L. (Broad Gauge) standard, and for providing reinforced concrete pier caps under the new girders. The existing girders, which were erected in 1887, are overstressed by 35 per cent. under the engines in use and a 5 miles per hour speed restriction for these engines had to be imposed in 1936, while coupled engines are not allowed to cross the bridge. The existing girders are also very shallow, while the material, according to a report made by the Metallurgist in 1934, is a mixture of early steel and wrought iron, both of poor quality. It was, therefore, decided that in this case it would be better to renew the girders instead of strengthening them. The new girders are being so designed that they can easily be strengthened to carry an overhead roadway when the need for this arises, and two footpaths, each four feet wide, will be provided on the new girders.

43.8. South Indian Railway.—Mention was made in a previous report of the renewing of girders on the Palar bridge on the Katpadi branch. Subsequently sanction was accorded to an estimate for the replacement of weak girders by new girders designed to M. G./M. L. loading on two more bridges on the same branch, raising the total cost to Rs. 7·53 lakhs. This will make the branch fit to carry a heavier class engine without restriction.

44. Hardinge Bridge, Eastern Bengal Railway.—During the working season before the flood season of 1938, the upstream portion of the Raita Protection Bank was reinforced for protection against scour down to reduced level 50 by laying 744,611 cubic feet of pitching stone through grids in water. The apron of the original Left Guide Bank was similarly reinforced down to reduced level 60.

The work started last year on the extension of the Left Guide Bank was completed up to chain 40, while the earth-work for the remaining portion was completed, *i.e.*, up to chain 80.

The emergency arrangements for patrolling during the flood season were continued as in previous years. In addition a material train consisting of 40 trucks loaded with pitching stone with an engine attached was kept

constantly in steam, and all available barges were loaded with stone and berthed conveniently along the river bank.

The Raita Protection Bank as well as the Right Guide Bank were heavily stressed during this flood season, but no serious damage was done.

45. Closing of unremunerative branch lines.—The railways continued their scrutiny of the financial position of their branch lines with a view to ascertaining if any of them were being worked at a loss and could be closed with financial advantage. As a result of this examination the following branch lines were closed during the year :—

(i) *North Western Railway.*—Baijnath Paprola-Jogindarnagar section of the Kangra Valley Railway was closed for public traffic from 1st November 1938.

(ii) *Great Indian Peninsula Railway.*—Section Bah to Hat Shamsabad of the Agra-Bah Railway was closed from 1st January 1939.

CHAPTER IV.

TRANSPORTATION.

A.—*Operating.*

46. Volume of traffic handled.—It has been customary to indicate the volume of business handled on the railways by figures of "passenger miles" for passenger traffic and "net ton miles" for goods traffic. These terms mean the total number respectively of passengers and tons carried, multiplied by the miles over which they are moved. As these figures give the best indication of the traffic dealt with, the same procedure is being followed this year. The net ton miles quoted in the following table do not include the tonnage hauled by purely departmental trains, but this was only about 2 per cent. of the total.

(Figures in thousands.)

Particulars.	Class I Railways.			
	1936-37.	1937-1938.	**1938-39.**	**Percentage of increase (+) or decrease (—) compared with 1937-38.**
Passenger miles	17,052,271	18,076,399	**17,987,655**	—0·49
Net ton miles	20,112,745	22,043,046	**21,394,147**	—2·94

NOTE.—(i) In the table above and in subsequent tables the Burma Railways have been excluded from the figures for 1936-37, so that the results for the three years may be comparable.

(ii) The figures of Mysore State Railway have been included in those for 1936-37 and 1937-38 for purposes of comparison.

47. Train miles.—The following table shows the number of train miles run to carry the traffic. Passenger train miles increased by 2·28 and 3·19 per cent. on the broad and metre gauges while there was a decrease of 1·64 per cent. on the narrow gauge. The goods train miles increased by 1·56 per cent. on the broad gauge and 2·44 per cent. on the metre gauge, while there was a decrease of 4·20 per cent. on the narrow gauge. Full details of the train and engine miles for each Class I Railway are given in Statements 17 and 32 of Volume II and those for each Class II and III Railways in Statement 37 :—

(Figures in thousands.)

Particulars.	Class I Railways.											
	Broad Gauge.				Metre Gauge.				Narrow Gauge.			
	1936-37.	1937-38.	**1938-39.**	**Percentage of variations with 1937-38.**	‡ 1936-37.	‡ 1937-38.	**1938-39.**	**Percentage of variations with 1937-38.**	‡ 1936-37.	‡ 1937-38	**1938-39**	**Percentage of variations with 1937-38.**
Passengers (including proportion of mixed) train miles.*	68,919	71,858	**73,494**	+2·28	31,104	33,903	**34,986**	+3·19	2,621	2,681	**2,637**	—1·64
Goods (including proportion of mixed) train miles.†	43,757	47,280	**48,018**	+1·56	17,670	18,311	**18,758**	+2·44	1,733	1,831	**1,754**	—4·20

* Includes mileage of electric locomotives and electric multiple units but excludes departmental.

† Includes mileage of electric locomotive trains but excludes departmental.

‡ Figures for 1936-37 and 1937-38 also include those for the Mysore State Railway for purposes of comparison.

The statement below compares, on the basis of index figures, the trend of the volume of traffic and of the work done during 1929-30, 1932-33 and the last three years on the Class I Railways :—

Year.	* Passenger miles.	* Passenger train miles.	† Coaching vehicle miles.	* Freight ton miles.	* Goods train miles.	† Wagon miles.
1929-30 . . .	100	100	100	100	100	100
1932-33 . . .	77	87	89	81	81	83
1936-37 . . .	79	96	94	100	97	100
1937-38 . . .	84	102	96	110	103	108
1938-39 . . .	**83**	**104**	**98**	**107**	**105**	**108**

* Includes figures for Mysore State Railway.

† Excludes Mysore State Railway for which figures are not available.

48. Shunting miles.—Considerable other engine mileage was necessary, but of an unproductive nature, *viz.*, shunting, light and assisting engine mileage. This mileage was equivalent to about 19 per cent. of the total engine miles (including departmental). The departmental train and engine mileage—which is also not directly productive—amounted to 9·9 million miles or about 4 per cent. of the total. As shunting miles form the greater proportion of unproductive mileage, *i.e.*, about 12 per cent. of the total engine miles, the following table has been prepared to show the ratio per 100 train miles on the passenger and goods services of Class I Railways :—

Particulars.	Broad gauge.				Metre gauge.			
	1936-37	1937-38.	**1938-39.**	**Percentage of variations with 1937-38.**	1936-37.	1937-38.	**1938-39.**	**Percentage of variations with 1937-38.**
Shunting miles per 100 train miles (Passenger and proportion of mixed).	5·15	5·06	**4·96**	**—1·98**	4·43	4·36	**4·71**	**+8·03**
Shunting miles per 100 train miles (Goods and proportion of mixed).	34·2	33·3	**33·9**	**+1·80**	33·4	33·9	**34·3**	**+1·18**

49. Engine performance.—The work done by engines is indicated by the figure " engine miles per engine per day ". This may be calculated either on the number of engines on the line or on the number of engines actually in use—on both counts there was improvement; on the former basis the daily mileage increased from 77 to 79 on the broad gauge and from 75 to 76 on the metre gauge, and on the latter basis the increase was from 114 to 115 on the broad gauge and from 106 to 110 on the metre gauge. On the broad and metre gauges the percentage of engines under or awaiting repairs in mechanical and transportation workshops, was almost the same as in the previous year.

50. Passenger trains.—The ever-changing needs of traffic require constant watch to ensure that the time tables suit the needs of the public. When revisions are made, the wishes expressed by private individuals and by public bodies receive most careful consideration—in fact on certain railways it is customary to refer the proposals to their Local Advisory

Committees for comment and criticism. Some of the more important examples of improvement are detailed below:—

50.1. Mail and Express trains.—*Bombay, Baroda and Central India Railway.—Broad gauge.*—In order to meet a general demand, the Down Gujarat Mail from Bombay was given a later start and run after the Down Kathiawar Mail by re-arranging slightly the departure times of the following trains from Bombay Central:—

Train.	Departure time. Original.	Revised.
Frontier Mail . . .	21·30 hours.	21·15 hours.
Kathiawar Mail . . .	21·50 ,,	21·30 ,,
Gujarat Mail . . .	20·25 ,,	22·00 ,,
Delhi Express . . .	22·50 ,,	22·15 ,,

The duplicate week-end "**Flying Ranee**" running between Bombay Central and Bulsar was cancelled in June; from October the week-end train was given additional halts at Borivli, Gholvad, Umbergaon Road and Sanjan.

East Indian Railway.—One Express train each way was introduced between Lucknow and Delhi *viâ* Moradabad.

One fast passenger train each way was withdrawn:—

Between Moghal Sarai and Delhi.

Between Asansol and Mokameh.

The Howrah-Lucknow-Delhi Express trains were diverted *viâ* Mirzapur and the Howrah-Mokameh passenger trains were extended to and from Moghal Sarai.

Great Indian Peninsula Railway.—From 1st November 1938 the "**Deccan Queen**" was not run except on important holidays.

Mysore State Railway.—In conjunction with the Madras and Southern Mahratta Railway, through rakes were run on:—

(i) Two Mail trains between Mysore and Hubli *viâ* Bangalore, Hindupur and Guntakal.

(ii) Two Mail trains between Bangalore City and Hubli.

(iii) Two Express trains between Bangalore City and Poona *viâ* Harihar.

(iv) Two Passenger trains between Bangalore City and Guntakal *viâ* Hindupur.

(v) Two Shuttle trains between Davangere and Hubli *viâ* Harihar.

South Indian Railway.—Broad gauge.—The Up and Down Cochin Express—introduced as an experimental measure, between Madras Central and Ernakulam to relieve overcrowding in the Malabar and Blue Mountain Express trains—continued during the year on further trial.

Metre gauge.—The Up and Down Passenger trains running between Dhanushkodi and Trichinopoly Junction were extended to and from Madras Egmore to run as Express trains between Madras and Trichinopoly Junction.

50.2. Suburban trains.—*East Indian Railway.*—Seven additional trains were introduced, *e.g.*:—

One light train from Sealdah to Howrah,

One light train from Chandanpur to Sealdah,

One light train from Howrah to Chandanpur, and

Four light trains between Sealdah and Dankuni.

Madras and Southern Mahratta Railway.—Broad gauge.—An additional passenger train was run between Madras and Rayapuram.

The run of two local trains was extended between Villivakkam and Avadi.

50.3. Other Passenger trains.—*Assam Bengal Railway.*—An additional train each way was introduced between Chittagong and Laksam with effect from the 1st May 1938; this proved popular not only with passengers for roadside stations but also with passengers from Chittagong on Saturdays and holidays and for British India Steam Navigation Company's steamer passengers from Akyab and Rangoon.

Many changes were also made in the branch line mixed train services, *i.e.*—

17 trains (four on Sundays only) were introduced.

8 trains (two on Sundays only) were cancelled.

The run of eight was extended and of two curtailed.

Bengal and North-Western Railway.—A light fast passenger train was introduced between Ballia and Benares.

Bengal Nagpur Railway.—The following new services were introduced :—

(i) Two light trains between Purulia and Adra with connection at Adra for passengers travelling in the direction of Asansol.

(ii) Two light trains between Gondia and Amgaon.

(iii) Vizagapatam-Khurda Road Passenger trains were extended to and from Puri, thus dispensing with the necessity for a change of trains at Khurda Road for passengers to and from Puri.

Bombay, Baroda and Central India Railway.—Metre gauge.—Two through passenger trains formerly running between Ahmedabad and Taranga Hill were " terminated " at Mehsana. The following additional trains were introduced :—

1 passenger train between Ajmer and Hatundi as a trial measure to avoid overcrowding by milkmen in one of the other trains.

2 passenger trains between Ahmedabad and Sabarmati.

2 passenger trains between Muttra Cantonment and Brindaban.

1 light train from Phulera to Sambhar Lake.

The Sentinel coach service between Ajmer and Bijainagar was replaced by a mixed train.

Two passenger trains between Ajmer and Hatundi were substituted by a Sentinel service which was extended to Nasirabad.

The run of four trains was extended and six trains were cancelled.

Narrow gauge.—During the busy season one fast mixed train each way, connecting with the up and down Delhi Express, was introduced between Anklesvar and Rajpipla.

Eastern Bengal Railway.—One extra train each way was introduced between—

(i) Ishurdi and Parbatipur,

(ii) Alipur Duar and Raja Bhatkhawa,

(iii) Mymensingh and Singhjani, and

(iv) Singhjani and Prodyotnagar.

East Indian Railway.—14 trains were introduced and 27 were withdrawn. The runs of 19 trains were extended.

Great Indian Peninsula Railway.—34 shuttle trains were introduced on 13 sections.

16 mixed trains on the Badnera-Amraoti sections were classified as passenger trains.

2 passenger trains on the Pulgaon Arvi section were cancelled.

2 shuttle services were extended.

Jodhpur Railway.—On the Jhudo-Mirpur Khas and Mirpur Khas-New Chhor sections " omnibus " trains were introduced making eight daily trips.

Madras and Southern Mahratta Railway.—With effect from the 13th of June 1938, one existing passenger service was extended from Tenali to Repalle and a new train was introduced in the reverse direction, but these were withdrawn from the 15th of November as they were not a success.

With effect from the 1st of April 1938, additional light trains in each direction were introduced daily between Pakala and Madanapalle but they were cancelled from the 1st of February 1939, as they were not a paying proposition.

For similar reasons, two light trains which were introduced between Guntakal and Hospet from the 1st of October 1938, were cancelled from the 15th of December 1938.

Mysore State Railway.—A fast passenger train each way was introduced on each of the following sections:—

(i) Mysore and Bangalore City.

(ii) Arsikere and Harihar } in place of mixed trains.
(iii) Mysore and Arsikere }

(iv) Arsikere and Birur (ordinary passenger).

On many of the local trains as well as on through trains running over the Madras and Southern Mahratta and His Exalted Highness the Nizam's State Railways, through carriages were run for the convenience of passengers.

His Exalted Highness the Nizam's State Railway.—8 down mixed train on the Kazipet-Bezwada section was converted into a fast passenger train, which provided a through service from Hyderabad to Bezwada, connecting with the Calcutta-Madras Mail.

North Western Railway.—Three trains were extended, one from Hoshiarpur to Lahore and two between Ludhiana and Raiwind; the former reduced the journey time between Hoshiarpur and Lahore from $6\frac{1}{2}$ hours to $4\frac{1}{2}$ hours and the latter two reduced the overall time between Moga Tehsil and Lahore from $6\frac{3}{4}$ hours to $4\frac{3}{4}$ hours in the up direction and $8\frac{3}{4}$ hours to $4\frac{1}{2}$ hours in the down direction.

South Indian Railway.—Metre gauge.—8 additional (R. M. C.) trains were introduced.

50.4. Speeds.—Arising out of the investigations resulting from the Bihta accident, the speed of Pacific class engines has been limited, as a precautionary measure, and XBs have been removed from certain services: in addition, increased margin has been allowed for drivers to make up time. In consequence the speeds on many sections were decreased rather than increased. On some railways, however, it was possible to effect improvements and an indication of these is given in the paragraphs below:—

Assam Bengal Railway.—The following increases were made in sanctioned maximum speeds:—

Section.	Miles per hour. From	To
(i) Akhaura-Shaistaganj	35	40
	40	45
(ii) Feni-Belonia	25	30
(iii) Shaistaganj-Ballapur	25	30
(iv) Shaistaganj-Badarpur	35	45
(v) Ashuganj-Bhairab Bazar . . .	20	35
(vi) Lumding-Lanka	25	35

Bengal and North-Western Railway.—The speeds of some of the main line trains and Expresses were raised from 25 to 30 and 30 to 32 miles respectively on certain sections, while the permissible maximum speed for passenger trains on certain sections was raised from 40 to 45 miles per hour.

Bombay, Baroda and Central India Railway.—Metre gauge.—7 trains between Kalol and Ahmedabad and one between Ahmedabad and Mehsana were speeded up and termed as Fast Passenger trains.

Eastern Bengal Railway.—The following Mail and Express trains were accelerated :—

3 Up Assam Mail by 35 minutes.

4 Down Assam Mail by 59 minutes.

5 Up Chittagong Mail by 35 minutes.

30 Down Barisal Express by 25 minutes.

Madras and Southern Mahratta Railway.—The speed of trains between Hubli and Miraj was accelerated by 56 minutes. By speeding up trains and suitable time table adjustments considerable reductions have been made in overall times in recent years. This is best illustrated by the following comparison with 1929 :—

	April 1929 Hours.	April 1939 Hours.	Reduction Hours.
Madras-Nandyal	$16\frac{3}{4}$	14	$2\frac{3}{4}$
Madras-Bellary	13	11	2
Madras-Hubli	$20\frac{3}{4}$	$18\frac{3}{4}$	2
Hubli-Poona	$18\frac{1}{4}$	$12\frac{1}{2}$	$5\frac{3}{4}$
Poona-Kolhapur	$10\frac{1}{2}$	$8\frac{1}{2}$	2
Poona-Belgaum	13	$8\frac{3}{4}$	$4\frac{1}{4}$
Poona-Mormugao Harbour	$22\frac{3}{4}$	$16\frac{3}{4}$	6
Bezwada-Guntakal	19	13	6
Hubli Bijapur	$10\frac{1}{2}$	8	$2\frac{1}{2}$

His Exalted Highness the Nizam's State Railway.—Important through Passenger trains were accelerated on the Secunderabad-Kazipet, Kazipet-Balharshah and Vikarabad-Purli sections on the broad gauge and Purna-Purli and Secunderabad-Dronachellam sections on the metre gauge: this raised the general average speed from 25·3 and 22·1 in 1937-38 to 26·0 and 22·3 in 1938-39.

North Western Railway.—The following improvements were made :—

(i) ***Mails.***

	Miles per hour. From	To	
Up and Down Sind Express	40 45	45 50	On selected sections between Karachi and Lahore.
Up and Down Calcutta-Punjab Mails	40	45	Certain portions between Saharanpur and Lahore.
Up Simla Mail	40	45	Between Ambala Cantonment and Lahore.

(ii) *Other passenger trains.*

	Miles per hour. From	To
Rohtak-Delhi	30	35
Ludhiana-Ferozepore Cantonment	30	35
Bahawalnagar-Fort Abbas-Samasatta	22	24
Hyderabad-Matli	25	27
Rawalpindi-Kohat	13 to 30	16 to 32
Lahore-Lala Musa	30	35
Batala-Qadian	26	30

The increased speeds made it possible to provide connections, not previously maintained.

50.5. Punctuality.—The following table shows the percentage of passenger trains not losing time to the total number of trains run on all the Class I Railways during 1938-39 as compared with 1937-38 :—

—	All trains (including electric multiple unit trains).	Mail and important through trains.	Mixed trains.	Suburban trains.	Other passenger trains.
Broad gauge.					
1937-38	83·5	77·2	82·2	82·1 94.7*	79·4
1938-39	**80·9**	**72·2**	**77·8**	**78·9 94·3***	**77·6**
Metre gauge.					
1937-38	85·5	81·4	88·7	97·0 90·0†	82·2
1938-39	**82·9**	**78·9**	**86·7**	**98·3 82·3†**	**80·0**

* Bombay, Baroda and Central India and Great Indian Peninsula Railways' electric multiple unit trains.

† South Indian Railway's electric multiple unit trains.

It is unsatisfactory to have to record this deterioration, but it was due to certain exceptional circumstances. These, in brief, were :—

(i) a considerable increase in passenger train miles;

(ii) an increase in goods train mileage, which affected the time keeping of passenger trains on single line sections;

(iii) a heavy programme of engineering works, on some railways to increase line capacity, and on others to repair damages caused by cyclones and heavy floods; and

(iv) the disorganisation caused in the time tables of some railways by the speed restrictions on Pacific class engines,—also the removal of the powerful XB locomotives from some passenger services.

50.6. Employment of small power units.—Mention was made in the last year's report of the steps taken by railways to combat road motor competition by the introduction of rail cars, sentinel coaches and light passenger trains. Similar efforts continued during the year under review and resulted in attracting additional passengers to the rail route.

Eleven diesel rail cars were delivered to the North Western Railway in January 1939. These cars, which are equipped with modern facilities for the carriage of third class passengers, were given necessary tests and trials preparatory to being put into service on routes radiating from Jullundur City.

On the Jodhpur Railway the "Omnibus" trains that proved so successful during the previous year were continued in service with gratifying results, whilst the Diesel and Ford Motor services on the Madras and Southern Mahratta Railway also continued to attract additional passengers.

Sentinel coaches continued to run on the Bengal Nagpur, East Indian and Bombay, Baroda and Central India Railways and the first named put two additional units into service representing an increase of 633 train miles per day.

On the Eastern Bengal Railway a Clayton steam coach was used for experimental Shuttle trains in addition to small steam locomotives on the Kurigram-Teesta-Rangpur and Ishurdi-Rajshahi sections, respectively. Such small steam locomotives were also operating accelerated services on the Ballia-Benares Cantonment section of the Bengal and North-Western Railway, in addition to sections on the East Indian, Great Indian Peninsula, North Western, Rohilkund and Kumaon and South Indian Railways.

51. Goods trains.

51.1. Speeds and reduction of transit time between points.—*Assam Bengal Railway.*—Two through goods trains were run regularly between Tinsukia and Pandu mainly for the transit of oil and petrol. The average through speed of these trains was 18·7 miles per hour in the down direction and 15·6 miles in the up direction.

Bengal and North-Western Railway.—Through goods trains were accelerated from 18 to 20 miles per hour and such trains were run on all major sections.

The express through goods service between Gorakhpur and Barauni Junction was extended to and from Katihar, a distance of 312 miles, with double crews.

Bengal Nagpur Railway.—Goods train services were completely over-hauled and timings revised to ensure more economical working.

A daily express goods service ran from Shalimar to Bombay to ensure quick transit of full wagon loads and " smalls ". Consignments reached Bombay by this service in seven days from the date of their despatch from Shalimar.

Similarly an express goods service left Shalimar daily for Madras by which consignments reached in five days from the time of their despatch.

In the reverse direction, the service from Bombay to Shalimar was bi-weekly but from Madras every day. There was also an express goods service between Shalimar and Ranchi by which traffic in full wagon loads and " smalls " was carried in two days either way and a bi-weekly service from Calcutta Jetties to Ranchi, without transhipment at Shalimar, also taking two days.

The following are some of the other long distance through services operated :—

Between	Miles.	Scheduled times. Hours	Scheduled times. Minutes
Express Goods—			
Shalimar-Nagpur	701	48	44
Shalimar-Waltair	545	46	42
Through Goods—			
Adra-Waltair	578	57	0
Tumsar Road-Vizagapatam Port . .	467	46	38
Talcher-Waltair	359	31	25
Gua-Burnpore	172	19	57
Bhojudih-Shalimar	193	13	26

Bombay, Baroda and Central India Railway.—An express goods service was introduced between Bombay and Ahmedabad running six days in a week. This service, combined with a re-organisation of loading at the

Bombay Depôt, helped to reduce the delivery time from four to two days, besides affecting a saving of 49 wagons a day during the busy season. A through goods train from stations on Bulsar district to the Bombay Port Trust was introduced to clear cotton wagons. This resulted in quicker release of wagons by 24 hours.

Night transhipment of wagons requiring crane power was commenced at Sabarmati, enabling 25 wagons to be dealt with daily instead of 15 wagons.

East Indian Railway.—Through Goods Services.—Scheduled timings are fixed on main line sections and co-ordinated as far as possible, throughout the line.

Express Goods Services.—These operated on the following sections and were mainly utilised for the conveyance of perishables, live stock and other traffic for long distances and to competitive points :—

(i) Howrah-Delhi *viâ* the Grand Chord (Dhanbad-Gaya-Moghal Sarai).

(ii) Moghal Sarai-Saharanpur.

(iii) Howrah-Jamalpur *viâ* Sahibganj loop, and

(iv) Asansol-Moghal Sarai *viâ* Main Line.

Additional paths are also available on the principal sections for extra express goods services as the traffic may require.

Great Indian Peninsula Railway.—4,806 through trains were run as compared with 2,544 in the previous year. The increase was due to the policy of running through trains between the furthest points and to the introduction of additional solid through trains over the following sections :—

Itarsi-Balharshah.

Ajni-Balharshah.

Bhusaval-Jhansi.

Jubbulpore-Kalyan.

The bi-weekly express goods service between Bombay and Shalimar (Calcutta) and the express goods service from Bombay to Poona were maintained. The Nagpur-Bombay cotton express goods service was again introduced in the season. In addition, a Khandesh cotton express goods service was run but the results were not encouraging. The oil special train service introduced *ex* Bombay to Bhusaval was extended up to Itarsi.

Jodhpur Railway.—A through connection was introduced from Hyderabad (Sind) to Luni Junction so that urgent traffic for Luni Junction and beyond might arrive 24 hours earlier.

Mysore State Railway.—A local night goods train was introduced between Arsikere and Birur resulting in the quick transit of goods between Mysore and Arsikere, Mysore-Bangalore-Birur sections on the one hand and the Birur-Shimoga branch on the other. The time taken in the transit of goods was consequently reduced by nearly 24 hours. To accelerate the transit of goods, particularly smalls, additional goods trains were introduced between Bangalore City and Mysore which leave at night and reach the destination next morning.

His Exalted Highness the Nizam's State Railway.—Express goods trains were run between Secunderabad and Bezwada (218 miles), the distance being covered in 10 hours and 29 minutes, 8 hours and 45 minutes in each direction as compared with 14 hours 8 minutes and 11 hours 57 minutes respectively taken previously. On the metre gauge the transit time of goods trains between Secunderabad and Manmad and Secunderabad and Dronachellam was reduced by $3\frac{1}{2}$ and $2\frac{1}{2}$ hours respectively.

Rohilkund and Kumaon Railway.—To accelerate the services and reduce transit time, through goods trains are run at speeds higher than those for ordinary goods trains.

South Indian Railway.—The running of express goods train service between Madras, Egmore and Tuticorin accelerated the transit of " Wagon loads."

51.2. Loads.—The average net or freight load of Goods trains (steam) on Class I Railways decreased from 399 tons in 1937-38 to 380 in 1938-39 on the broad gauge and from 169 to 161 tons on the metre gauge. Statement No. 23 of Volume II of the Report gives the figures for each railway.

The main index of goods train operation, *i.e.*, " Net ton miles per engine hour " also declined on both the gauges; the figures being—

	Broad gauge.	Metre gauge.
1937-38	2,001	859
1938-39	**1,854**	**822**

These figures are naturally dependent on the factors, " tons carried " and " average lead " which in turn influence the engine hours: again the type of traffic handled has a great bearing on these averages. In 1938-39, as compared with 1937-38, the tons carried on Class I Railways—broad gauge—increased by 1,157,000 (1·31 per cent.) while the average lead fell from 218 to 208 miles (4·59 per cent.) and the net ton miles by 601,854,000 (3·13 per cent.): on the other hand, the engine hours increased by 331,000 (3·80 per cent.).

These results are attributable chiefly to a fall in the heavy merchandise traffic in parts of northern and southern India, due to widespread famine conditions, and to the large scale movement of lighter merchandise such as fodder.

Noticeable features on individual railways were:—

Bengal and North-Western Railway.—The Express through goods trains between Gorakhpur and Barauni Junction, which were extended to and from Katihar with double crews, took a load of 75 in terms of four-wheelers. These trains are hauled by the " YB " engines.

Bengal Nagpur Railway.—There was a falling off of 23·6 per cent. in heavy loads such as manganese ore and limestone, partly made up by an increase of 14·25 per cent. in lighter loads such as oilseeds and grains, but this decreased the net train load by 12 tons and increased train miles by 1 per cent. In spite of these conditions, the average starting load of wagons was well maintained as will appear from the figures given below:—

	1929-30	1937-38	**1938-39**
	Tons.	Tons.	**Tons.**
Starting wagon load—			
(i) Coal and Coke . . .	19·7	20·5	**20·7**
(ii) Heavy merchandise . .	17·6	18·2	**18·1**
(iii) Light merchandise . .	12·2	12·3	**12·2**

Bombay, Baroda and Central India Railway.—The average net load of trains on the metre gauge decreased from 217 tons in 1937-38 to 190 tons due to a large increase in light merchandise traffic to famine areas.

Eastern Bengal Railway.—The net load per goods train increased as shown below:—

	1937-38	**1938-39**
	Tons.	**Tons.**
Broad Gauge	268	**283**
Metre Gauge	160	**170**

The better results made it possible to carry 3·62 per cent. more tons and to achieve 6·24 per cent. more net ton miles with only 0·24 per cent. extra goods train miles.

East Indian Railway.—The policy of extending the running of goods trains with loads of 70 vehicles north and west of the coalfields (72 on the

old Oudh and Rohilkund section) was pursued. Coal trains are limited to 67 wagons by the rating capacity of locomotives.

Rohilkund and Kumaon Railway.—The average net or freight load per goods train increased from 147 tons in 1937-38 to 150 in 1938-39.

South Indian Railway.—There was a slight decrease in the net train load of goods trains on the broad gauge due to more frequent use of low capacity engines to clear available loads quickly and to the running of additional trains for fodder to Tiruppur and Coimbatore, where famine conditions prevailed. A similar decrease on the metre gauge was mainly due to a fall in traffic arising from the failure of the north-east monsoon.

52. Marshalling yards and their working.—Few major alterations were made during the year but various minor additions and alterations were carried out in many yards. The following are some of the improvements :—

Bengal and North-Western Railway.—The Muzaffarpur station yard was thoroughly remodelled. Other stations such as Sonepore and Benares City were also being remodelled.

Bengal Nagpur Railway.—At Khargpur, five flood light towers, 90 feet high, were installed which illuminate the whole of the traffic and locomotive yards and greatly assist shunting operations. At Tatanagar, additional lines were provided and certain remodelling carried out which, together with isolation, facilitated dealing with traffic to and from the steel works.

Eastern Bengal Railway.—A new " hump " was provided in the Calcutta goods yard. The " hump " at Chitpur (the main terminal goods yard of this railway in Calcutta) and the Control Tower were completed; the equipment includes ten electrically operated points.

Madras and Southern Mahratta Railway.—Last year, mention was made of the experiments being carried out at Tondiarpet marshalling yard. These proved satisfactory. An additional facility was the provision of runways by which the braking skids are thrown off the track on reaching the runways, thus reducing the possibility of damage to wagons. A loud-speaking equipment was also installed in the down " hump " which enables the cabinman to broadcast instructions to the staff in the yard.

North Western Railway.—The " Cardexing " of wagons was introduced at large stations which is an aid to efficient marshalling.

South Indian Railway.—Madura Junction was remodelled and equipped with power signalling and a modern goods yard which is isolated from the passenger yard.

53. Quicker transit of " smalls ".—This is the term used for consignments tendered in less than full wagon loads; naturally it is more difficult to ensure rapid transit of such consignments as they have to be loaded with other articles, possibly for a different destination or destinations, in which case they may have to be transhipped into another wagon *en route*. All railways have been paying particular attention to this subject both from the point of view of providing as rapid a service as possible and also with the object of reducing to the minimum the number of transhipments, as these tend to delay wagons and militate against their best utilisation. The following are brief particulars of special steps taken by some of the railways with this object in view :—

Bengal Nagpur Railway.—The time taken in transit between selected pairs of stations was watched and measures calculated to avoid delays were taken.

In addition to the ordinary " Tranship " trains, a daily express goods service ran from Shalimar to Bombay, carrying " smalls " as well as wagon loads. Consignments reached Bombay in seven days. A similar service left Shalimar daily for Madras, taking five days. In the reverse direction, the service from Bombay was only bi-weekly but from Madras it was daily. Similar services from Calcutta and Shalimar to Ranchi took two days.

Bombay, Baroda and Central India Railway.—The work of perfecting the new system of dealing with " smalls " traffic continued with success; generally speaking, the traffic is moving twice as fast as it used to.

On the broad gauge, " road " vans regularly covered the distance from Bombay to Gangapur, a distance of 680 miles, in four days; other examples of increased speed were Baroda to Viramgam—103 miles, in two instead of five days, Ratlam to Baroda—161 miles, in two, instead of five or six days, Bombay to Kotah—573 miles, in three instead of eight days.

On the metre gauge, some results were—Ahmedabad to Ajmer—305 miles, three instead of five days, Beawar to Siddhpur—208 miles, two instead of five days, Cawnpore to Rewari—383 miles, five instead of ten days.

The elimination of transhipment from wagon to wagon of the same gauge progressed considerably. On the broad gauge system the number was reduced from an average of 7,340 a month to 2,590 in March and on the metre gauge system from an average of 6,600 a month to 3,600. Further reduction will be made when the through running of road vans in conjunction with contiguous foreign railways is introduced. The transhipment sheds at Bulsar, Baroda and Godhra on the broad gauge system and at Neemuch on the metre gauge system, were entirely closed, and the closing of other sheds will be effected in due course.

The elimination of so much transhipment resulted in a large economy in wagon usage, estimated at 300 wagons daily on the broad gauge system and 200 daily on the metre gauge system. It also quickened transit time and minimised the risks of damage attendant on handling from wagon to wagon.

Eastern Bengal Railway.—With effect from the 16th September, a method of registered transit, designated the " Green Arrow Registered Transit System " was introduced. The essence of the system is that for a registration fee of Re. 1 per consignment, goods or parcels, and irrespective of size and weight, the consignor and the consignee are given the following privileges :—

(i) the consignment is continuously watched by a special organization called the " Green Arrow Cabinet " to ensure its being transported as quickly as possible;

(ii) the consignor or consignee can at any time ascertain the whereabouts of the consignment from the " Green Arrow Cabinet ";

(iii) notices of arrival and intimations of delivery are promptly sent to the consignee and the consignor respectively.

The system applies to (i) local booking over the Eastern Bengal Railway system, including stations on the northern section of the Calcutta Port Commissioners' Railways, which are worked by the Eastern Bengal Railway, and (ii) through booking from stations on the Eastern Bengal Railway system (including the stations on the northern section of the Calcutta Port Commissioners' Railway) where the special watch by the Green Arrow Cabinet extends only as far as the junction.

The average number of Green Arrow paid bookings up to the end of the year was 77 per day.

East Indian Railway.—A revised " Smalls " Quick Transit Service was introduced from the 1st of May. The trains are run to schedule timings with an average speed of 240 miles a day, with the result that the transit time has been reduced by more than 50 per cent. This is instanced by the fact that consignments are scheduled to take four days between Howrah and Delhi and five days between Howrah and Khanalampura; the time between intermediate stations being correspondingly less. The system has resulted in a reduction in the total number of wagons utilised for re-packing and in a saving in the cost of handling at transhipment sheds. A special section was inaugurated in the headquarters office to check and control the working of the system. For this purpose, the movement of certain types

of traffic between 90 pairs of selected stations was watched and it is proposed to increase this to at least 250 pairs of stations. A special check was also maintained on the point-to-point movement of particular commodities carried in bulk demanding expeditious transit. 400 stations were required to submit returns in respect of any consignments which took more than the scheduled time laid down so that the causes might be traced and removed. This is but a brief outline of the scheme which it is estimated not only considerably speeded up movement but reduced the number of wagons dealt with in tran-shipment sheds by as much as 270 a day in the busy season.

Great Indian Peninsula Railway.—On the Wardha-Balharshah section, the timings of transhipment trains were revised with the following advantages:—

(i) the service required one engine less;

(ii) detention in the supply and clearance at various stations was reduced;

(iii) delivery of "smalls" was effected one day earlier;

(iv) detention to road vans at Wardha was reduced by an hour;

(v) by this revision in timings crossings at two stations were eliminated and it was possible to drop the proposals for lengthening the loop lines at these stations.

The transhipment arrangements on the south-east section were over-hauled and short distance traffic between certain important points on the section was delivered at destination within 24 hours.

Raichur, as the point of interchange for "smalls" between the Great Indian Peninsula Railway and the Madras and Southern Mahratta Railway, was eliminated.

The savings estimated on the south-east section as a result of this reorga-nisation were:—

(i) Rs. 18,615 per year from the acceleration and, Rs. 4,476 per year in train staff;

(ii) Rs. 28,000 per year from the abolition of Raichur as a point of interchange.

Madras and Southern Mahratta Railway.—The system inaugurated in 1937, which was referred to in some detail in the report for 1937-38, was continued and four more transhipment sheds were closed and through road vans substituted for the former system. It is estimated that there was a reduction of approximately 38,400 broad gauge wagons and 17,800 metre gauge wagons re-packed as compared with the previous year. The saving in hire and haulage charges consequent upon this large reduc-tion was of course off-set by a considerable increase in the road van miles on both gauges, but the public benefited in the case of each tranship-ment load less re-packed by a saving of approximately 24 hours in transit.

North Western Railway.—The policy of entirely or partially closing transhipment sheds and carrying out the work of re-packing on the transit trains was continued. This resulted in the partial or entire closing of 21 transhipment sheds. Coupled with an acceleration of deliveries and the running of through trains on all major sections, this combined to reduce the delivery time of "smalls" in several cases by 50 per cent., in addition to reducing the marshalling *en route*. A system of guaranteed delivery of consignments within a specified time between selected pairs of stations was also introduced.

54. Vehicle usage.—As an indication of the extent to which the avail-able wagon stock is utilised and for the purpose of comparing one year with another, it is usual to quote two statistical figures:—

(i) the average number of miles run per wagon per day; both loaded and empty wagons being taken into account; and

(ii) the average number of net ton miles carried by a wagon per day.

In considering these figures it must be remembered that they indicate the work done by the total number of wagons, including those standing empty and stabled during the period they are in excess of traffic requirements and not only by the wagons actually in use. In this country, the fluctuations in traffic are so marked that for many months in the year stock is lying idle. In the year under review, the number spare was over 10,000 for nearly two months and at one period even touched the figure of 18,000.

	Class I Railways.			
	Broad Gauge.		Metre Gauge.	
	1937-38.	**1938-39.**	1937-38.	**1938-39.**
Wagon miles per wagon day	41·1	**40·2**	28·9	**30·9**
Net ton miles per wagon day	367	**351**	149	**147**

All Railways have been making an intensive study of the wagon usage in an endeavour to obtain the maximum possible use out of the stock available but at the same time to provide better service to the public.

54.1. Stock out of commission.—Goods wagons.—The average number of unserviceable broad gauge wagons in mechanical and transportation workshops and sick lines daily was 5·74 per cent. of the total goods stock on line as compared with 5·81 per cent. in 1937-38. When it is remembered that in 1936-37 the figure was 9·53 per cent., the value of this further improvement is more apparent. On the metre gauge, the figure was 2·94 as against 2·81 in 1937-38; though this figure is not quite so good, it is still very much better than the figure of 3·34 per cent. for 1936-37.

The figures quoted above, being averages, do not indicate the position during the busy season. In order that as many wagons as possible should be available for loading during the period of peak traffic, railways took steps to carry out all possible periodical overhauls during the slack season; for this purpose where the dates on which wagons were due for overhaul coincided with the busy season they were extended, provided that they were certified as fit to run.

Passenger vehicles.—The average number of passenger vehicles under or awaiting repairs decreased on the broad gauge from 11·17 per cent. in 1937-38 to 10·35. On the metre gauge there was little change, the figures being 6·94 per cent. in 1937-38 and 6·95 per cent. in 1938-39.

54.2. General.—The following figures show some of the principal improvements in transportation working on individual railways:—

Assam Bengal Railway—

	1937-38	**1938-39**
(i) Wagon miles per wagon day . .	28·0	**31·3**
(ii) Net ton miles per wagon day . .	127	**142**
(iii) Net ton miles per (goods) locomotive day on line	6,010	**6,626**
(iv) Net ton miles per (goods) locomotive day in use	8,573	**9,150**
(v) Engine miles per day per engine in use	104	**111**
(vi) Engine miles per day per engine on line	79	**87**
(vii) Shunting miles per 100 train miles—		
Passenger	6·68	**5·54**
Goods	28·4	**24·6**

Bengal Nagpur Railway.—Engine miles per day per engine in use and on line advanced from 124 and 83 in 1937-38 to 130 and 86 respectively in 1938-39.

Eastern Bengal Railway—

	1937-38	1938-39
(a) *Broad gauge*—		
(i) Net ton miles per wagon day . .	161	**166**
(ii) Net ton miles per (goods) locomotive day—		
On line	9,597	**9,803**
In use	14,095	**14,776**
(b) *Metre gauge*—		
Net ton miles per (goods) locomotive day—		
On line	6,998	**7,232**
In use	10,852	**11,209**

Great Indian Peninsula Railway—

	1937-38	1938-39
Broad gauge—		
(i) Wagon miles per wagon day . .	51·9	**56·2**
(ii) Net ton miles per wagon day . .	446	**468**
(iii) Engine miles per day per engine on line	83	**88**

Madras and Southern Mahratta Railway—

	1937-38	1938-39
Metre gauge—		
(i) Wagon miles per wagon day . .	33·0	**35·5**
(ii) Net ton miles per wagon day . .	159	**173**
(iii) Net ton miles per (goods) locomotive day—		
On line	5,676	**6,137**
In use	8,372	**8,812**

North Western Railway.—Engine miles per day per engine in use rose from 111 in the previous year to 118 in 1938-39.

South Indian Railway—

	1937-38	1938-39
Broad gauge—		
(i) Net ton miles per wagon day . .	291	**302**
(ii) Net ton miles per (goods) locomotive day—		
On line	10,574	**10,847**
In use	18,621	**18,961**
(iii) Shunting miles per 100 train miles—		
Goods	37·0	**34·1**

55. Wagon Position.—**(Broad Gauge.)**—The number of public service wagons (in terms of four-wheelers) in use at the end of the year was 149,561 *i.e.*, 550 less than at the end of 1937-38.

On the broad gauge the total number of wagons loaded was 4,782,128 being an increase of 49,220 or 1·04 per cent. over the previous year.

All available wagons continued to remain in demand till the end of June 1938. From the first week in December 1938 demands for wagons again commenced to exceed the available supply and this continued for the

following three months. It was necessary, therefore, to resort to measures similar to those adopted in the previous year, *viz.* :—

The suspension of rules regarding periodical overhaul of wagons on all railways (except the Madras and Southern Mahratta and His Exalted Highness the Nizam's State Railways) from about the middle of December 1938 to the end of March 1939.

The highest loading was registered in the period ending 31st December 1938 when an average of 14,815 wagons were loaded daily, this figure is considerably below the highest on record attained hitherto, *viz.*, 15,222 in period ending 28th February 1938.

The number of wagons temporarily out of service on all broad gauge railways from December 1938 to March 1939 varied from 6,796 to 7,479 daily, the lowest figure being 4·5 per cent. of the total wagon stock available for public traffic.

56. Neutral Examination of interchanged stock.—The staff working under the Director of Wagon Interchange continued to examine wagons interchanged between railways at the following Junctions :—

Agra Cantonment.
Ajni-Nagpur.
Chheoki.
Ghaziabad.
Khanalampura.
New Delhi.
Waltair.

B.—*Commercial.*

57. Alterations in rates and fares.

57.1. Passenger fares.—The bases of passenger fares generally remained unchanged except over the South Indian Railway, where the following alterations were made :—

(i) with effect from 1st July 1938, the basis of First class fare was enhanced from 21 pies to 24 pies per mile.

(ii) with effect from 1st October 1938, Third class fares were slightly increased by adding a small sum on a zone basis as shown below :—

	As. p.
1 to 9 miles	*Nil.*
10 to 30 ,,	0 3
31 to 50 ,,	0 6
51 to 150 ,,	1 0
151 to 300 ,,	1 6
Over 300 miles	2 0

Railways, however, continued to make alterations in their passenger fares, mainly over selected sections, partly under the stress of road competition and partly with a view to develop new traffic. The following are some of the more important changes that were made during the year :—

(i) *Assam Bengal Railway.*—With effect from 15th September 1938, cheap Third class Round Tour tickets available for three months from the date of issue were introduced in conjunction with the Eastern Bengal, East Indian, Bombay, Baroda and Central India, Great Indian Peninsula and North Western Railways for journeys from certain selected stations on the Assam Bengal Railway to various places of religious and historical importance, on the abovementioned railways.

(ii) *Bombay, Baroda and Central India Railway.*—(*a*) Initial experiments with third class zone tickets were made during the period 21st July

1938 to 10th August 1938 for six zones into which the railway was divided. The results were so encouraging, that these tickets were again issued for other periods in 1938 and 1939 on a 25 per cent. increase in fares.

(*b*) First and second class return tickets were introduced at $1\frac{1}{2}$ single journey fares, from Ajmer and Jaipur *to* Mount Abu and between Bombay *and* Karachi *and* Delhi.

(iii) *Bengal Nagpur Railway.*—First, second and third class through return tickets at concession fares from stations in Ceylon to Benares, Gaya and Balrampur were introduced in conjunction with the Ceylon Government Railways, the South Indian, Madras and Southern Mahratta, East Indian and Bengal and North Western Railways, to attract Buddhist pilgrim traffic.

(iv) *East Indian Railway.*—(*a*) With effect from 1st April 1938, six-monthly third class rail-cum-road return tickets from 13 selected stations to Srinagar (Kashmir) were issued at $1\frac{1}{2}$ single journey fares.

(*b*) With effect from 1st July 1938, sixty-day return journey tickets were introduced at $1\frac{1}{2}$ single journey fares for all classes from 20 selected stations to Simla, Summer Hill, Solan and Dalhousie.

(*c*) Third class return tickets were issued at $1\frac{1}{3}$ single journey fares, for any distance over 100 miles during the Durga Pooja, Xmas and New year and Easter Holidays.

(*d*) With effect from 1st June 1938, the basis of charge for week-end return tickets over the Hardwar-Dehra Dun section was revised as under :—

Previous.	Revised.	
2 single journey fares	16 to 30 miles . . .	$1\frac{1}{2}$ single journey fares.
	31 miles and over . . .	$1\frac{1}{3}$ single journey fares.

(v) *Great Indian Peninsula Railway.*—(*a*) With effect from 1st May 1938, the basis of lower class fares over the Pulgaon-Arvi section was reduced from 3 pies to 2 pies per mile.

(*b*) First and second class rail-cum-road return journey tickets at concession fares, were issued from Bombay to Srinagar, during the period 15th April 1938 to 30th November 1938 in conjunction with the road motor service run by Messrs. N. D. Radha Kishan & Sons. These tickets were available for six months from the date of issue or upto the midnight of 30th November 1938, whichever was earlier.

(*c*) To encourage travel during mid-week holidays, concession tickets were introduced in local booking.

(*d*) To attract third class passengers to intermediate class and to popularise intermediate class travel, a reduced single journey fare of Rs. 20 for intermediate class was introduced with effect from 1st March 1939 between Bombay, Byculla and Dadar on the one hand and Cawnpore Central and *viâ* on the other.

(*e*) To attract a large number of visitors and delegates to the Indian National Congress held at Tripuri (near Madan Mahal) in March 1939, return tickets for all classes at one and a half single journey fares were issued. This concession was also allowed by the Bombay, Baroda and Central India, East Indian, His Exalted Highness the Nizam's State and Madras and Southern Mahratta Railways. Over the Madras and Southern Mahratta Railway the basis of charge for third class passengers was $1\frac{3}{4}$ single journey fares.

(vi) *Madras and Southern Mahratta Railway.*—" Travel-as-you-like " and " Zone " tickets were issued during Easter, Summer, Dussehra, Deepavali and Christmas holidays and in addition combined tickets were issued in conjunction with the South Indian and Great Indian Peninsula Railways.

Commencing with the Summer 1938 issue the prices of the third class tickets were enhanced as follows :—

Travel-as-you-like	from Rs. 12-8 to Rs. 15.
Zone tickets	from Rs. 10 to Rs. 12-8.

(vii) *North Western Railway.*—(*a*) To compete with road motor services cheap fares were introduced on 13 additional sections where investigations showed that traffic could be developed by the introduction of such fares.

There are now 134 sections in all where such fares are in force.

(*b*) Third class return tickets at a fare and a half were issued from 100 selected stations to Nankana Sahib on the occasion of the annual fair held to celebrate Guru Nanak's birthday.

(*c*) Six-monthly return tickets from certain principal stations to Simla, Summer Hill, Solan, Dharampore Punjab and Kandaghat stations were issued at the following fares :—

First, second and third class . . .	$1\frac{1}{2}$ fares.
Intermediate class.	
Up to 624 miles	$1\frac{1}{2}$ fares.
Plus for distances 625 miles and over .	six pies per mile on single journey distance.

(viii) *South Indian Railway.*—(*a*) First, second and third class " Go-as-you-please " tickets for unlimited travel, available for 15 days, were issued during the Easter, Christmas and New Year holidays (Nilgiri Railway, Out agencies, Ferry Steamers between Dhanushkodi and Talaimannar Pier excepted).

(*b*) During the Dussehra Holidays third class return tickets at $1\frac{1}{2}$ single fares were issued from certain stations on the South Indian Railway to Mysore.

(*c*) First and second class week-end return tickets at $1\frac{1}{2}$ single journey fares were introduced between 26 selected stations and Madras Egmore.

(*d*) Cochin-Colombo Round Tour tickets for first class passengers available for two months were issued at Rs. 80 per ticket for travel by rail and sea.

(*e*) With effect from 1st July 1938, half-yearly and yearly season tickets were withdrawn.

57.2. Parcels traffic.—Reduced rates quoted by railways for developing parcels traffic, facilitated the movement of fruits and garden produce, particularly over long distances. The following are some of the more important changes made in parcels rates :—

(i) *Bengal Nagpur Railway.*—(*a*) Quarter parcels rates have been introduced for cauliflowers and tomatoes from certain stations in the Satpura District to Howrah.

(*b*) During the summer of 1938, from 20th May to 30th June, the rates for fish from the stations on the East coast to Howrah were reduced by 20 per cent. As a result, the traffic and earnings increased considerably.

(ii) *East Indian Railway.*—(*a*) Reduced " owner's risk " rates for betel leaves were quoted *between* stations on the East Indian Railway *and* stations on the Rohilkund and Kumaon and North Western Railways. Over the East Indian Railway portion, these rates are equivalent to $\frac{1}{3}$rd parcels rates.

(*b*) Special rates, below half parcels rates, were quoted for fresh fruits and vegetables at owner's risk between stations on the East Indian Railway and stations on the North Western Railway.

(iii) *Madras and Southern Mahratta Railway.*—A number of special vehicle rates were quoted for seasonal fruit traffic, especially for mangoes, with a view to developing long distance movements.

(iv) *North Western Railway.*—(*a*) Reduced rates ranging down to $\frac{1}{8}$th parcels rates for fresh fruits, vegetables and other parcels traffic have been introduced over 209 sections and withdrawn from 42 sections.

(*b*) With effect from 1st June 1938, $\frac{1}{3}$rd parcels rate has been quoted for pomegranate from Multan to Howrah, with satisfactory results.

57.3. Goods traffic.—As usual railways made a number of alterations in the freight rates for goods traffic with a view to securing maximum traffic movement and revenue. As can be expected, the great majority of the changes made was in the direction of reductions in rates for development of internal trade of the country and for facilitating the movement of agricultural produce. The following are some of the more important changes made during the year.

Cotton seeds.—(i) A reduction of 20 per cent. was made in the rates to Bombay and of 17 per cent. in those to New Delhi from the principal cotton seed booking stations on the Great Indian Peninsula Railway.

(ii) Special reduced rates were quoted by His Exalted Highness the Nizam's State Railway from stations on the Nizamabad-Badnapur section to Bombay *viâ* Manmad, in conjunction with the Great Indian Peninsula Railway.

Ground nuts.—(i) Special low rates from the Kolhapur area to Bombay were introduced to divert traffic from road-cum-sea route to rail route.

(ii) Special reduced rates have been quoted over the North Western Railway for ground nuts without shells moving from Doraha, Khanna, Ludhiana and Nawashahar Doaba to the oil mills at Begamabad.

Jagree.—(i) As an inducement to better loading of wagons a reduction of 10 per cent. in freight charges for minimum loads of 270 maunds was effected from centres in the Dinapore, Lucknow and Moradabad Divisions of the East Indian Railway to Great Indian Peninsula Railway stations.

(ii) With effect from the 1st January 1939 the first class rate (·38 pie per maund per mile) has been introduced for jagree in place of the normal second class rate (·42 pie per maund per mile), over the East Indian Railway, except over the Hardwar-Dehra Dun section and when booked *viâ* Cawnpore Central Goods Shed (Bombay, Baroda and Central India Railway).

(iii) C/N Schedule rate was introduced for jagree in wagon loads from stations on the Howrah, Asansol and Dinapore Divisions of the East Indian Railway to Cawnpore Central Goods Sheds and Unao Mills.

Jute.—Reduced rates were introduced over the Eastern Bengal Railway for consignments to Calcutta and to mills and presses in and around Calcutta from Sorbhog, Barpeta Road and other "Riverain" stations in competition with inland river steamers.

Maize.—The construction of a factory at Ahmedabad for the manufacture of starch used for sizing by the Textile industry has commenced after a satisfactory settlement regarding the rating of the raw material between the new Company and the Bombay, Baroda and Central India Railway. About 6,000 tons of maize will be consumed annually by the new factory.

Mangoes.—Special reduced rates in wagon loads were quoted from Chittoor and Katpadi stations on the Madras and Southern Mahratta Railway to Nagpur, Bombay (V. T.), Ahmedabad and Delhi. Without these rates this long distance traffic would not have moved.

Paddy and rice.—(i) Reduced rates were quoted between certain stations on the Assam Bengal Railway to create new traffic.

(ii) Special rates ranging from As. 6-6 to As. 8-6 per maund were quoted by the Madras and Southern Mahratta Railway from Cocanada and other important centres in the Godavari-Kistna delta area to Mormugao and other stations on the Western India Portuguese Railway.

(iii) Special low rates for rice from Bombay to the Kolhapur area were introduced in competition with the sea-cum-rail route.

Sugar.—Rates from the stations on the Bengal and North Western Railway in North Bihar to Howrah were reduced, with a view to prevent diversion of traffic to the river route.

Sugar Candy.—In order to develop long lead traffic, special reduced rates were quoted, with satisfactory results, from the sugar factory stations, Setabganj, Beldanga and Gopalpur on the Eastern Bengal Railway to several Assam Bengal Railway stations.

Wheat.—The 25 per cent. freight rebate on wheat booked from North Western Railway stations to Karachi and exported to countries west of Aden and east of Singapore was continued during the year.

Ammonium chloride, compressed.—A special rate has been quoted for this commodity in wagon loads from Chheharta to Karachi on the North Western Railway.

Bauxite.—Reduced rates were quoted over the East Indian Railway for the use of cement factories at Dehri-on-Sone, Japla and Khasa.

Boots and shoes.—Reduced rates were quoted over the East Indian Railway from Batanagar on the Eastern Bengal Railway to Delhi and *viâ* Saharanpur for traffic to the North Western Railway.

China Clay.—Rates were reduced over the East Indian Railway for China Clay used for paper manufacture from Colgong to Dehri-on-Sone.

Coal.—In accordance with the recommendations of the Railway Rates Advisory Committee in connection with the representation received from certain coal interests in the Central Provinces, the bases of charges for coal, coke and patent fuel for the public and for the use of railways, when booked from stations situated in the Pench and Chanda Valley areas, including *viâ* Parasia (for traffic *viâ* the Bengal Nagpur Railway) to stations on the Great Indian Peninsula Railway and *viâ* and to the Bombay, Baroda and Central India Railway and *viâ*, were revised with effect from 1st December 1938, as under :—

Old basis of charge.	Pie per maund per mile.	Revised basis of charge.	Pie per maund per mile.
1. For traffic carried for distances 250 miles and under :—		1. For traffic carried for distances 400 miles and under :—	
(*a*) For all distances up to 200 miles inclusive .	0·165	(*a*) For all distances up to 175 miles . .	0·165
(*b*) *Plus* for any distance in excess of 200 miles and up to 250 miles inclusive .	0·130	(*b*) *Plus* for any distance in excess of 175 miles and up to 400 miles inclusive .	0·060
2. For traffic carried for distances over 250 miles and up to 400 miles inclusive :—		2. For traffic carried for distances over 400 miles :—	
(*a*) For all distances up to 300 miles inclusive .	0·110	(*a*) For all distances up to 200 miles . .	0·150
(*b*) *Plus* for any distance in excess of 300 miles and up to 400 miles inclusive .	0·050	(*b*) *Plus* for any distance in excess of 200 miles and up to 400 miles inclusive .	0·060
		(*c*) *Plus* for any distance in excess of 400 miles . . .	0·050
3. For traffic carried for distances over 400 miles :—			
(*a*) For all distances up to 200 miles inclusive .	0·150		
(*b*) *Plus* for any distance in excess of 200 miles and up to 400 miles inclusive .	0·060		
(*c*) *Plus* for any distance in excess of 400 miles . . .	0·050		

(ii) Rates from Belampalli to Bezwada and *viâ*, and from Balharshah to *viâ* Bezwada were reduced over His Exalted Highness the Nizam's State Railway by one rupee per ton.

(iii) The rate from Belampalli to *viâ* Dronachellam was also reduced from Rs. 5-13 to Rs. 5-5 per ton.

Gunnies.—The rates from Howrah and adjacent mill centres to stations in the Cawnpore-Lucknow area were reduced by amounts varying from 11 pies to As. 4-7 per maund.

Gypsum.—Special rates were quoted from stations on the North Western Railway and other sources for the cement factory at Dehri-on-Sone.

Industrial alcohol, denatured.—Special rates have been quoted for "wagon loads" from Meerut Cantonment to Hyderabad and Karachi and from Karnal to Karachi to develop the traffic.

Iron ore.—With effect from 1st November 1938 reduced rates of Rs. 5-9-6 and Rs. 5-6-2 per ton were introduced from Samehalli and Kanivihalli, to Mormugao Harbour. These rates were further reduced to Rs. 5-0-5 and Rs. 4-13-1 per ton from 22nd February 1939.

Manganese ore.—Rates for high grade ore from the Bengal Nagpur Railway stations in the Central Provinces to Calcutta, Vizagapatam Port and Bombay were enhanced by 8 per cent.

Matches, safety.—(i) A special through rate was quoted from Clutterbuckganj siding (Rohilkund and Kumaon Railway) to Hyderabad (Sind) (Jodhpur Railway) *viâ* Kasganj and Kuchaman Road.

(ii) Reduced rates have been quoted for safety matches from Alwaye, Trichur, Satur and Sivakasi on the South Indian Railway.

Piece-goods cotton woollen and artificial silk in bales press-packed, etc.—Special reduced rates have been quoted from Okara and Lyallpur to Karachi.

Soap.—Rates from Ernakulam were reduced for distances 151 to 450 miles in local booking over the South Indian Railway.

Timber.—To remove disparity in the rates over the broad and metre gauge sections of the Eastern Bengal Railway, the general basis of rates for timber has been altered and rationalised. In cases where it has been found that the revised basis might act adversely on traffic between specific points, the position has been met by the quotation of special "zone" rates on a lower basis.

Wood-pulp and Sabai Grass.—Special rates were quoted for these commodities over the East Indian Railway for the paper mills at Jagadhri, Saharanpur and Dehri-on-Sone.

58. Simplification of tariffs and measures adopted to expedite the quotation of rates to the public.—This important matter continued to receive the closest attention of Railways during the year. As a result of this scrutiny, several of the individual Railways' exceptions to and variations from the General Classification of Goods published by the Indian Railway Conference Association were cancelled and withdrawn. With regard to the assimilation of the schedule rates quoted over different Railways, though, for obvious reasons, it was not possible to achieve any striking uniformity, the following details are indicative of the attention railways have paid to this matter.

The *Assam Bengal Railway* have adopted the same schedule rates for "Bones and Manures (chemical)", as is in force on the Eastern Bengal Railway.

The *Bengal Nagpur, Eastern Bengal* and *East Indian Railways* have adopted the same schedule rates for the following commodities :—

Ballast.	Oilcakes
Bitumen.	Sand.
Bone Dust.	Slag
Bones.	Stone (N. O. C.).
Ghooting.	

The *Madras and Southern Mahratta* and *South Indian Railways* charge the same schedule rates for the following commodities :—

Bicarbonate of Soda and Soda Ash.
Flour.
Iron and steel scrap.
Jagree.
Manures of all kinds, including chemical manures.
Oilcakes.
Tanstuffs (N. O. C.).
Tiles.

The *Jodhpur Railway* have introduced the same schedule rate for saltpetre as is charged over the *Bombay, Baroda and Central India, Bikaner State, North Western* and certain other railways.

The *North Western Railway* have cancelled the L/T schedule rate for Tanstuffs (N. O. C.) over the broad gauge sections of the railway in through booking and have introduced the schedule C/R rate, which is also applicable over the East Indian Railway.

The *Rohilkund and Kumaon Railway* have :—

(i) introduced for ballast the same schedule rate as is in force over the *Bengal and North-Western Railway*.

(ii) equalised the basis of charge for household effects with that levied by the *Bengal and North-Western* and *East Indian Railways*.

A large number of special station-to-station rates were quoted, as usual, in cases where it was found that the application of schedule rates in through booking hindered the free movement of traffic.

For some time past the question of correct and expeditious quotation of freight rates to the public has been engaging the serious attention of railways. It is now several years since the *North Western Railway* introduced calculated station-to-station rate registers for booking of their outward traffic destined for stations situated on " foreign " railways. These registers have been supplied to all stations on the *North Western Railway* which are open for booking of traffic to foreign railways and the number of rates now covered by such registers amounts to well over 2 lakhs. As the calculation of correct freight rates for traffic passing over two or three railways is always a complicated procedure, these rate registers have been of great assistance to the booking staff in finding out correct rates for outward foreign traffic.

There is a special section in the Chief Commercial Manager's office, whose sole function is to keep these registers up-to-date and revise them promptly as soon as a change in rates is notified.

During the year under review the preparation of station-to-station rate registers for foreign outward booking was taken in hand by the *Bengal Nagpur* and *Assam Bengal Railways*, and the work is expected to be completed soon.

59. **Facilities for dealing with traffic.**—Railways continued their policy of opening new booking offices and out-agencies with a view to afford additional facilities, for dealing with traffic. The particulars of booking offices and out-agencies opened during the year by the principal railways are given in paragraph 116.

The following are some of the other important facilities provided during the year :—

East Indian Railway.—Seven new assisted and private sidings were opened to serve mills and other business concerns.

The assisted siding serving Messrs. Martin and Company's Cement Works at Japla, hitherto open for goods traffic in wagon loads only, was opened for traffic in " smalls ".

Great Indian Peninsula Railway.—A goods shed has been provided at Sehore Cantonment and a 60-ton weighbridge at each of the stations, Bhusaval and Agra Cantonment.

An assisted siding has been provided for the sugar factory at Sehore Cantonment. Loop sidings have been added to the Jukehi Kymore main assisted siding at Jukehi for the use of Messrs. Dubash and Company and Messrs. Diwan Lime Company.

Mysore State Railway.—Sidings connected with the railway station at Bhadravati have been extended through the Mysore Iron and Steel Works to the Paper Plant and the Cement Factory.

North Western Railway.—Arrangements have been made for the collection and delivery of goods consignments from and at merchants' business premises at the following places :—

Batala.	Sialkot.
Montgomery.	Ludhiana.

A street delivery service for parcels traffic, operating from the Delhi Main station, has been introduced for the convenience of the residents of Delhi and New Delhi.

South Indian Railway.—A street delivery system for parcels has been introduced at Calicut.

60. Road motor competition.—The railways continued to make efforts to combat road competition. Brief particulars of the measures taken in this respect by some of the principal railways, are given below :—

Bengal and North-Western Railway.—A light passenger service has been introduced between Ballia and Benares Cantonment in competition with bus services on this section.

Bengal Nagpur Railway.—Two passenger halts were opened on the East Coast section. Eight additional Light trains and two extra Sentinel Coach services were introduced on different sections. The services became quite popular.

Bombay, Baroda and Central India Railway.—Intense canvassing, issue of return tickets at reduced fares, opening booking offices in *fair* grounds, and advertising by posters, leaflets and drum beating, continued during the year.

Goods rates for various commodities between certain stations were also reduced.

East Indian Railway.—Reduced fares have been introduced on 50 competitive sections covering an approximate route mileage of about half that of the system as a whole. In the majority of cases the reduced fares have shown satisfactory results.

Lorries registered as " private " continued to carry " public " goods and there appeared to be no abatement of the practice of overloading.

Competition for goods traffic showed signs of increase during the year particularly in the United Provinces and Bengal and in respect of long distance through traffic to and from the Punjab. The introduction of reduced rates between various centres and improvement of transport facilities, where possible, was actively resorted to, with varying results.

Great Indian Peninsula Railway.—The following were among the measures adopted to combat road competition :—

(i) A number of reduced rates and fares were quoted between certain stations.

(ii) Several shuttle services were introduced on the sections affected.

(iii) Eight halt stations were opened for the booking of passengers and their luggage.

(iv) The timings of regular train services were altered to suit local requirements.

Jodhpur Railway.—Omnibus trains stopping at halts between stations were introduced between Mirpurkhas and New Chhor and Mirpurkhas and Jhudo. These trains consist of one or two coaches only, carrying third class passengers and are manned by conductors who issue tickets to the passengers *en route.* All these trains are very popular and compete with buses running from Mirpurkhas to Jhudo and from Mirpurkhas to Pithoro.

Madras and Southern Mahratta Railway.—With effect from 1st April 1938 the Madras Government introduced the " Madras Motor Vehicles Rules, 1938 ", which improved appreciably the position in regard to road competition.

Amongst the more important measures taken by the railway were :—

(i) Additional feeder bus services introduced between certain points.

(ii) Four new halts for passenger trains were opened.

(iii) On the Tenali-Repalle, Guntakal-Hospet and Pakala-Madanapalle sections additional train services involving running of 430 additional train miles daily, were put on experimentally for certain periods. They were, however, withdrawn subsequently as the traffic carried was insufficient to justify their retention.

Rail-borne passenger traffic and earnings between 2,006 pairs of stations were examined and the effect of competitive services on 102 routes re-surveyed, and cheap fares were either introduced or withdrawn where considered justifiable.

Mysore State Railway.—Under the " Mysore Road Traffic and Taxes Act ", the railway continued to run motor bus services on monopoly terms, on roads parallel to Shimoga-Sagar section. A bus service was also run between Sagar and Gersoppa Falls.

The system of way-side halts was extended on Shimoga-Sagar section. These halts were provided close to populous villages, between stations, for convenience of passengers. Short platforms were provided and the guards of the trains issued and collected tickets at these halts.

Passenger fares were also reduced on certain sections to combat road competition.

North Western Railway.—Road competition with the railway was more acute than ever, owing chiefly to the increase in the number of lorries licensed as " private " but which were used for carrying public goods.

The policy of issuing cheap fare tickets (single or return) on sections subject to road motor competition continued. Cheap fares have been introduced on thirteen additional sections where investigation showed that traffic could be developed by the introduction of such fares. On seven sections where the results were not satisfactory the cheap fares have been withdrawn. There are now 134 sections in all where such fares are in force.

Special rates based on 20 per cent. less than the ordinary 4th class rates have been introduced for cotton (raw), full-pressed, from certain stations on this railway to Delhi, Delhi-Kishanganj, Subzimandi, Ujhani (*viâ* Ghaziabad and Bareilly), Agra Cantonment, Belanganj, Bilochpura, Morar Road, Hathras Killah, Cawnpore Central Goods Shed and Lucknow. A number of special rates from and to certain stations on this railway have also been quoted in competition with road transport, for flour, grain, pulses

and seeds common, tobacco, tea, earthenware, fruits dried, vegetable ghee or vegetable oil solidified, etc.

Rohilkund and Kumaon Railway.—Single and return journey tickets at reduced fares were issued between certain stations and concession was allowed in respect of engine charge for marriage specials. Accelerated Light passenger trains were run between Bareilly and Kathgodam and between Bareilly and Lakhimpur-Kheri.

Quarter parcels rate was charged for potatoes from Haldwani in local booking and in through booking with the Bengal and North-Western and Bombay, Baroda and Central India Railways.

South Indian Railway.—The introduction of the " Madras Motor Vehicles Rules, 1938 ", helped in checking uneconomic road competition to some extent.

The reduced fares quoted in competition with road services continued to curb the activities of the buses.

Towards the end of the year a system of Road Van service was introduced on the Madras District for quick transit of goods traffic in smalls. It is expected that when this system is extended to the entire system, lorry competition will be more effectively countered.

61. Through road and rail services.—The Railways continued their policy of providing through booking facilities by opening new out-agencies. The particulars of out-agencies opened by the principal railways during the year are given in paragraph 116.

In the last year's report mention was made of the inauguration of road motor services between Lyallpur and Jhang through the agency of the North Western Transport Company in which the North Western Railway administration is the predominant partner. These road services have proved a success, the results obtained are gratifying both in regard to gross receipts and net profits.

62. Contact with the business community.—The closest possible contact between Railways and the business community is naturally equally necessary in the interests of both. Railways for their part have various methods of achieving this. There are what are termed Local Advisory Committees, on which are representatives of the Central Legislature (a member of the Central Advisory Council for Railways), the Provincial Legislatures, important Chambers of Commerce and Trade Associations, etc. Some particulars of the work undertaken by these Committees have been given in paragraph 10. In addition to these Committees, railways have, in some places, meetings with the Chambers of Commerce. They also arrange that their Commercial Officers and Inspectors shall interview firms at frequent intervals. In many instances a railway representative is an *ex-officio* member of the Committees of important Chambers of Commerce.

In the following paragraphs, an indication is given of the special steps taken by some railways to establish and maintain close contact :—

Bengal Nagpur, East Indian and Eastern Bengal Railways.—These three railways held three meetings with representatives of five Chambers of Commerce in Calcutta and the Calcutta Trade Association. A wide variety of subjects was discussed, including :—

(*a*) freight rates for particular commodities;

(*b*) the provision of sidings to serve certain works;

(*c*) the East Indian Railway's Collection and Delivery services;

(*d*) improvement in train services;

(*e*) the reservation of lower class seats;

(*f*) improvements in facilities and amenities at stations and in trains;

(*g*) inspection of food on station premises.

On the *Bengal Nagpur Railway*, the Traffic and Passenger Canvassing staff were constantly in touch with the business community and the Commercial Officers frequently met the traders at different stations.

Similarly, on the *Eastern Bengal Railway*, the Research Officer kept in touch with business houses by frequent calls and discussions.

On the *East Indian Railway*, the Chief Commercial Manager held meetings with the Cawnpore Chamber of Commerce.

Bombay, Baroda and Central India Railway.—The newly organised Commercial Department devoted particular attention to maintaining closer contact with traders and there was evidence to show that this was appreciated.

Great Indian Peninsula Railway.—Meetings with traders, merchants and their agents were convened at regular intervals at important stations by the Divisional Traffic Managers. Additional Traffic Canvassers were also appointed to watch the development of trade and industry.

Madras and Southern Mahratta Railway.—Contact with the business community was maintained principally through the Assistant Commercial Managers on Districts and the canvassing staff under them stationed at Madras, Hubli and Bezwada. Six canvassers had their headquarters at Madras and four each at Hubli and Bezwada.

North Western Railway.—Meetings were held at regular intervals between local representatives of trade and the Commercial Officers at all important stations. The railway also had a representative on the Committees of the important Chambers of Commerce.

South Indian Railway.—The Chief Commercial Superintendent and the District Commercial Officers were *ex-officio* members of the various Chambers of Commerce which enabled close and friendly relations to be maintained with the trading public. The canvassing staff maintained touch with the business community.

63. Refunds on unused tickets.—Steps were taken by railways to speed up payment of claims for refunds on unused or partially used tickets. The procedures adopted by some of the railways are given below :—

Assam Bengal Railway.—The system under which refund pay orders were first sent to the Chief Auditor, for certification and the subsequent remittance to the applicant on receipt of the certified pay order in the Commercial Office has been revised. The Pay Orders are now sent to the Chief Auditor for certification and direct payment to the party concerned.

Great Indian Peninsula Railway.—A printed form embodying data in respect of accountal, collection and disposal of the surrendered tickets has been introduced. Refunds are now arranged without the Chief Accounts Officer's certificate. Under this arrangements 261 claims were settled and the average time taken was eight days against 23 days formerly.

Jodhpur Railway.—Refunds are made after verification of issue and collection of tickets from the records available in commercial office without making a reference to the Audit office, thus speeding up the settlement of the refunds claimed.

64. Claims for compensation and refunds.—The following statements for Class I Railways (except Jodhpur and Mysore) show for 1938-39 :—

A. *the number of claims in respect to goods or parcels damaged or lost, received and disposed of;*

B. *the number and value of claims paid in respect of goods or parcels lost or damaged under main causes;*

C. *the number of court cases in respect of goods or parcels lost, damaged or delayed and their disposal.*

STATEMENT A.

Item No.	Particulars.	A. B.	B. & N.-W.	B. N.	B., B. & C. I.	E. B.	E. I.	G. I. P.	M. & S. M.	N. S.	N. W.	R. & K.	S. I.
1	Number of cases involving compensation for goods or parcels lost, damaged, or delayed carried over as unsettled at the close of the preceding year .	82	310	619	544	567	1,086	314	226	160	674	86	143
2	Number of claims received (and re-opened) for compensation on account of goods or parcels lost, damaged, or delayed during the current year . .	1,450	2,539	3,813	7,887	5,090	9,832	8,264	4,641	803	9,792	595	2,231
3	Number of claims referred to in items 1 and 2 settled during the year . . .	1,391	2,571	3,660	7,704	4,798	9,294	8,273	4,545	844	9,689	597	2,168
4	Balance outstanding as unsettled at the close of the year . .	141	278	772	727	859	1,624	305	322	119	777	84	206
5	Net amount paid in compensation . Rs.	6,213	13,782	36,500	33,154	32,637	20,781	76,981	36,217	4,669	67,352	1,699	9,415
6	Percentage sum paid in compensation (item 5) bore to gross earnings.	0·05	0·05	0·04	0·04	0·09	0·01	0·08	0·05	0·02	0·04	0·04	0·02
7	Average time in days taken in settlement of claims shown under items 1 and 2 . .	35	69	59	19	40	60	15	31	54	25	55	26
8	Number of applications received for refunds on goods and parcels overcharged . .	3,648	4,506	4,399	10,842	7,744	15,568	4,780	4,959	2,115	12,183	338	7,928
9	Average time taken in settlement of claims shown under item 8. Days	30	66	51	38	57	50	47	25	70	25	43	20

STATEMENT B.

Item No.	Particulars.		A. B.	B. & N.-W*.	B. N.	B., B. & C. I.	E. B.	E. I.	G. I. P.	M. & S. M.	N. S.	N. W.	R. & K.	S. I.
1	Claims paid on account of goods lost.	No.	185	658	1,082	1,506	660	2,462	1,333	162	160	219	122	446
		Value Rs.	3,168	7,143	18,400	8,309	12,875	44,132	11,289	2,768	1,374	2,411	989	2,975
2	Claims paid on account of goods stolen.	No.	168	120	2	228	31	1,086	848	130	29	1,034	18	23
		Value Rs.	2,905	3,641	264	3,185	2,114	10,507	8,563	2,353	675	10,758	794	476
3	Claims paid on account of goods damaged by wet.	No.	52	70	453	2,041	484	2,706	4,124	667	97	755	12	166
		Value Rs.	1,157	2,110	10,155	8,813	10,353	20,841	27,018	8,482	965	10,667	213	2,182
4	Claims paid on account of goods damaged by fire.	No.	..	..	..	5	..	10	10	6	*Nil*	10	..	1
		Value Rs.	..	..	..	202	..	633	22,352	70	*Nil*	2,252	..	337
5	Claims paid on account of goods damaged by breakage.	No.	15	11	34	54	5	40	164	82	20	75	3	41
		Value Rs.	261	230	1,227	985	61	1,274	2,492	839	446	1,727	12	340
6	Claims paid on account of parcels and luggage lost and stolen.	No.	21	100	161	147	316	509	199	72	14	99	30	71
		Value Rs.	603	1,024	2,308	861	4,148	6,655	1,373	837	157	1,792	188	547
7	Claims paid on account of other causes.	No.	39	263	285	1,271	732	415	811	1,436	514	1,948	32	154
		Value Rs.	499	4,450	10,596	11,589	4,070	14,028	18,305	21,138	1,052	18,682	533	2,558

* Miscellaneous recoveries amounting to Rs. 4,816 have not been deducted from the value figures.

STATEMENT C.

Item No.	Particulars.	A. B.	B. & N.-W.	B. N.	B., B. & C. I.	E. B.	E. I.	G. I. P.	M. & S. M.	N. S.	N. W.	R. & K.	S. I.
1	Number of suits filed in court (or pending from the previous year) for the recovery of compensation in respect to goods or parcels lost, damaged or delayed .	7	57	34	84	20	126	105	58	6	55	5	29
2	Number of such suits settled out of court .	2	10	5	7	4	15	12	11	1	2	...	1
3	Number of suits dismissed . . .	3	23	3	23	5	29	33	16	2	30	2	7
4	Number of suits decreed	2	5	1	24	1	8	9	*Nil*	*Nil*	..	1	1
5	Number of suits pending	*Nil*	19	25	30	10	74	51	31	3	23	2	20

65. System of ticket checking and prevention of ticketless travel.— The methods adopted by the various railways to combat this evil have been given in considerable detail in previous reports. In the main, there was little change; the principles being a combination of ' Ticket Collectors ' and ' Checkers ' at stations and ' Travelling Ticket Examiners ' to make surprise checks on trains. The fact that, in spite of all precautions, the problem of ticketless travel remains a serious one will be evident from the figures given in the statement at the end of this paragraph. It will be seen that no fewer than 2,461,612 persons were detected either without any tickets or with incorrect tickets as compared with 2,387,465 in the year 1937-38. These figures do not, except in the case of Eastern Bengal, Jodhpur and His Exalted Highness the Nizam's State Sailways, include the very large number of mendicants turned out of trains and station premises. For instance, on the Bombay, Baroda and Central India Railway alone, no less than 546,031 were removed in 1938-39.

Apart from individual cases of attempts at free travel, the railways were at times faced with organised action by bands so large—and aggressive—as to be quite beyond their powers to deal with, even with the assistance of the Railway Police. An instance of this was the ' *kisan* ' agitation in the United Provinces. On the 16th January, over a thousand *kisans* boarded trains without tickets on the South Bihar and Patna-Gaya branches and travelled to Gaya. At this station, they adopted a most truculent attitude and the Government Railway Police and railway staff were unable to prevent them from forcing their way out of the station, without payment.

The same evening a large and uncontrollable crowd stormed Gaya station and occupied a train due to leave at 17·16 hours. It was only after additional police and the District Magistrate had been summoned and two local leaders had added their persuasion that the mob vacated the train and the station, but by then the train had been detained $2\frac{1}{4}$ hours. In the meantime, reports had been received that large bodies of *kisans* were waiting to board the train at other stations and it was decided in consultation with the Magistrate not to run the train. Those who had taken tickets had their money refunded.

While the police and railway staff were busy dealing with those who had got into the first train, some 400 other *kisans* without tickets boarded and left in another bound for Gaya.

The total number who travelled without tickets on the 16th and 17th of January may safely be approximated at 3,000.

Similar trouble was experienced on other days and special measures to protect and assist the railway staff had to be taken by the civil authorities.

The following are other instances of similar lawlessness :—

In February, a gang of 40 beggars and fakirs entrained without tickets from the off side of 240 Down at Jatoi on the North Western Railway. The railway staff attempted to detrain them without success. At Moro Sind a

Head Constable and three Constables had no more success, the gang adopting a threatening attitude. It was only at Daulatpur Safar where the train was met by a large force of police that these beggars detrained and went off with 15 to 20 others who had been waiting on the off side of the train.

On the 17th March, 40 to 50 men boarded 138 Down at Mari Indus near the trailing points and as the train was slowing down on arrival at Kundian, they jumped off and ran away.

The revenue lost to railways by the action of such persons means that so much less is available for providing additional amenities for those who pay and that less contribution can be made by the Centre to Provincial revenues.

In the following paragraphs mention is made of some of the more important measures adopted by some railways and of changes in organisation during the year :—

Assam Bengal Railway.—With the elimination of second class accommodation the system of booking travelling ticket examiners had to be re-arranged as it was not possible for them to rest in running trains. A rotary method of booking was adopted so that they might obtain their rest at running rooms and work to and from headquarters without wasting time on travelling or overlapping. This method proved successful and had the advantage of continual changes in the ticket checking personnel on each section of the line.

As the experiment of posting a batch of travelling ticket examiners at selected stations to ascertain the effects of better ticket checking facilities at stations resulted in a reduction in the number of trains checked, it was discontinued.

A few selected sections, however, were put under intensive check by providing one or more travelling ticket examiners for each train on the section. Results obtained were encouraging.

Special checks were carried out at stations, in which a few travelling ticket examiners were posted at each station for a period of 15 days to determine the effect on earnings and also to ensure that no passengers entrained or detrained without proper tickets and that none entered the platform without proper authority. As a result the excess fares collected at these stations and the sale of platform tickets showed a marked increase.

By arrangement with the Provincial Government, the services of an Honorary Magistrate were utilised to try cases of ticketless travel within Chittagong civil district. Arrangements were also made for magistrates to hold courts at different sub-divisional and district headquarter stations. 265 such courts were held and it was found that about 94 per cent. of the passengers paid on detection, against 65 per cent. who normally paid when magistrates were not sitting.

Bengal and North Western Railway.—There was no change in the system of ticket checking, but 17 and 40 special checking raids were carried out respectively in the provinces of the United Provinces and Bihar in conjunction with the police and the special magistrates.

Bengal Nagpur Railway.—Arrangements were made to place at least two travelling ticket checkers in each train to ensure a thorough check. A special " squad " comprising three travelling ticket checkers and a travelling ticket inspector in charge, drawn from different districts, was sent out occasionally for surprise checks. Special checks by Commercial and Transportation Officers with staff who were occasionally spare from their normal duties, yielded an additional revenue of Rs. 2,837.

Eastern Bengal Railway.—The methods previously employed were continued and, in addition, a " Block " system of intensive check was introduced on the southern section from June 1938, and on the Calcutta-Ranaghat and

Calcutta-Bongaon sections from the middle of July, 1938. Under this system the normal checking staff of important stations including Calcutta were reinforced by the crew staff so as to ensure, as far as possible, that every passenger had a ticket. Checking by flying squads on running trains was retained along with this system.

East Indian Railway.—In addition to the normal methods employed, special checks were made by sending staff by road to selected important and wayside stations, where they checked trains.

Madras and Southern Mahratta Railway.—The only change during the year was that checking squads were interchanged quarterly instead of being permanently posted in one area.

The appointment of a special Honorary Magistrate at Madras Central to deal with cases detected by the Madras Area squad was extended for a further period of two years from October 1938. The establishment of this Court resulted in a satisfactory reduction of ticketless travel in the Madras area.

Mysore State Railway.—Surprise checks are made periodically by officers who travel to the selected station by road.

His Exalted Highness the Nizam's State Railway.—The strength of travelling ticket inspectors was further augmented by six men from the commencement of the year.

Lady ticket collectors posted at Secunderabad travelled by main line trains between Secunderabad and Hyderabad (broad gauge and metre gauge) and checked compartments reserved for women. This check proved effective.

North Western Railway.—A cent. per cent. check of passenger trains was made on the Karachi Division (as on the Rawalpindi Division the previous year) and was very successful.

South Indian Railway.—The strength of travelling ticket inspectors was increased from 14 to 17, the number of travelling ticket examiners remaining constant at 197. The whole of the ticket checking staff were under headquarters control in the charge of the Deputy Chief Commercial Superintendent. The method of ticket checking varied from time to time in the light of experience gained.

With a view to supplement the check of travelling ticket examiners working to a monthly roster and to enable special surprise checks to be made, four squads of three travelling ticket examiners with a travelling ticket inspector in charge and two squads of four travelling ticket examiners each were formed. The entire length of the Railway was divided into 33 sections and the squads covered all the sections in the course of every month in accordance with the duties assigned to them by the Deputy Chief Commercial Superintendent.

The following were the duties of these special squads :—

(*a*) to concentrate on areas where greater check was deemed necessary,

(*b*) to pay special attention to stations where the percentage of missing tickets was high, and

(*c*) to supplement the check of trains at festival centres where pilgrim traffic was expected to be large.

In order to deal expeditiously with passengers prosecuted for illicit travel, the Provincial Government appointed special Railway Magistrates at Trichinopoly, Madura and Villupuram junctions and invested them with first class powers to try cases arising under sections 106, 108, 118, 120, 122 and 123 of the Indian Railways Act, besides those of passengers travelling without tickets.

The following statement shows the total number of passengers detected travelling without proper tickets on Class I Railways during the year 1938-39 and the amounts due:—

Name of Railways.	No. of passengers.*	Amount due. Rs.
Assam Bengal	60,700	64,043
Bengal and North-Western	338,989	2,30,081
Bengal Nagpur	204,688	2,70,987†
Bombay, Baroda and Central India	335,635	5,57,583
Eastern Bengal	249,499	2,41,160
East Indian	264,991	4,17,608
Great Indian Peninsula	204,206	2,18,326
Jodhpur	43,653	42,473
Madras and Southern Mahratta	145,243	1,14,916
Mysore State	10,573	4,282
His Exalted Highness the Nizam's State	7,430	10,205
North Western	383,056	4,76,304
Rohilkund and Kumaon	55,052	44,761
South Indian	157,897	1,30,787
	2,461,612	28,23,516

* These figures do not include mendicants except in the case of Eastern Bengal, Jodhpur and His Exalted Highness the Nizam's State Railways.

† This figure represents the amount actually collected.

66. Mela traffic.—In Chapter V which deals with publicity, an indication is given of the special measures undertaken to encourage travel to places of religious importance and of the methods adopted to make widely known the special facilities and concessions in fares that were offered. The large scale movement to the many pilgrim centres which resulted, necessitated special study and care. At many centres, the stations are specially designed to cope with a tremendous rush over a short period, but even so weeks of preparation were often required before a major festival. Arrangements had to be made for special pipe-lines and taps to ensure an adequate water-supply, for extra lighting, for vendors of food to be present in sufficient numbers with pure and wholesome food, for opening special booking offices, with signs, easily understood, at each window to indicate the destinations for which tickets could be purchased, for special sanitation, for first aid centres and isolation wards and for augmenting the normal train service and the running of special trains. Large numbers of special staff had to be drafted in and for their accommodation it was frequently necessary to construct special camps. In the following paragraphs mention is made of some of the more important festivals for which such arrangements were made:—

Assam Bengal Railway.—The number of passengers to places of pilgrimage totalled 295,811; an increase of some 32,000 over the previous year. This was partly due to the quotation of fares on a specially low basis and to the provision of special facilities, but also to the fact that the Churamoni Yoga, an auspicious bathing festival for Hindus, which occurs once in 20 years or so, coincided with the dates of the Rashjatra mela at Sitakund. Success also attended the special steps taken to encourage Manipuris to travel to places sacred to their religion. The inhabitants of this State are all 'Vaishnavas' by faith and follow the religion of Sree Chaitanya; the holy shrines being situated at Nabadwip, Santipur and Krishnagar City. Third class 30 days' return tickets at a special fare of Rs. 13 for each adult and Rs. 6 annas 8 for each child above three and under 12 years of age were quoted between January and April from Manipur Road. The results as compared with the previous year were as follows:—

1937-38.		**1938-39.**		**Increase.**	
No.	Rs.	**No.**	**Rs.**	**No.**	**Rs.**
1,133	11,818	**4,033**	**26,861**	**2,900**	**15,043**

Bengal and North-Western Railway.—There were seven large fairs of which the most important, from the point of view of attendance, was the Kartic Purnamashi, held at Sonepore, Paleza Ghat, Hajipur, Semaria Ghat, Balia and Ajodhya Ghat the number of passengers who travelled to these places being 374,390. For the transport of these pilgrims and those attending the lunar eclipse 314 special trains were run.

Bombay, Baroda and Central India Railway.—There were 17 important festivals lasting a total of 96 days. The most important of these (apart from the monthly poonam at Dakor) being the Hindola Janmashtami at Muttra and Brindaban which lasted for 30 days and for which the number of passengers was 167,564. The next in importance was the Khwaja or Urs at Ajmer which lasted for eight days and had an attendance of 73,398.

Eastern Bengal Railway.—Last year, mention was made of the special arrangements made in connection with the Ganga Sagar mela off Diamond Harbour. As a result of these measures and the publicity work undertaken to make them known, about 11,500 pilgrims used the rail-cum-steamer route. But for the Churamoni Yoga preceding this mela by about two months the number of pilgrims would have been much greater.

The Churamoni Yoga bathing festival which occurs only at intervals of over 20 years attracted pilgrims to Calcutta, Nabadwip Ghat, Santipur and Manihari Ghat, the heaviest rush being at Nabadwip Ghat to which it is estimated that 50,000 passengers travelled: 96 special trains were run to and from this station.

East Indian Railway.—About 250 *melas* and fairs are served directly by this railway and a special campaign to encourage travel was applied to as many as 130 of them, this was apart from the arrangements made in conjunction with other railways for festivals held on their systems.

The most important was the Kumbh mela at Hardwar which commenced on the 12th March 1938, and which was referred to in some detail in last year's Report. The total railborne traffic for this mela amounted to 5·78 lakhs of passengers.

The following are some of the other important *melas* with comparative figures of attendance for this and the previous year:—

(a) *Piran Kaliar mela at Roorkee*—

(From 6th to 18th May 1938.)

1937-38	51,419
1938-39	59,925

(b) *Pitripukh mela at Gaya*—

(From 6th to 26th September 1938.)

1937-38	150,021
1938-39	132,640

(c) *Kartiki mela at Garhmukhtesar*—

(From 31st October to 11th November 1938.)

1937-38	209,799
1938-39	156,611

(d) *Magh mela, Allahabad*—

(From 5th January to 4th February 1939.)

1937-38	226,825
1938-39	231,409

Great Indian Peninsula Railway.—26 *melas* were held against 34 in the previous years. The more important annual gatherings were the Ashadi and Kartiki fairs at Pandharpur. The number of pilgrims who travelled to the first by rail was 50,108,—a small decrease over the previous year. For this fair 24 inward and 27 outward special trains were run. Unlike previous

years heavy rain fell for nine days during the course of this *mela* but there was no epidemic due largely to the improvement in preventive and sanitary arrangements made in recent years. For the Kartiki fair 30,138 passengers arrived by rail and 6 inward and 12 outward specials were run.

North Western Railway.—There were eight important fairs on this system. 20 bogie intermediate and third class and 150 third class carriages were specially reserved for pilgrim traffic.

South Indian Railway.—There were 10 major festivals and in six of these the number of passengers attending was less than in the previous year. This must be mainly attributed to the general economic depression among the middle classes. The failure of the north-east monsoon in many areas and the consequent famine conditions prevailing in a number of districts was also a contributory factor.

67. Measures taken to ensure civility and honesty on the part of the railway staff in their dealings with the public.—The subject of honesty and civility on the part of the staff continued to receive the unremitting attention of all railway administrations. As the co-operation of the public is essential in this matter, the railways endeavoured to secure assistance—

(*a*) by making appeals through the medium of newspapers and by putting notices in prominent places at stations requesting that all cases of incivility, lack of attention, or demands for illegal gratification, etc., should be immediately reported; and by making easily accessible special books or boxes through which complaints might be represented;

(*b*) by asking Chambers of Commerce and traders to co-operate in bringing to light cases of dishonest dealing; and

(*c*) by paying prompt attention to such complaints and taking severe disciplinary action in all proved cases.

The great importance which railways place on courtesy and honesty is constantly kept before the staff—

(i) by lectures at traffic training schools; and

(ii) by slogans issued with working time-tables, rate circulars, railway manuals, and in weekly notices.

It is hoped and believed that this special campaign will continue to meet with success.

CHAPTER V.

PUBLICITY.

68. General.—Publicity for the railways of India is carried out by the Central Publicity Bureau of the Railway Board and by the Publicity Offices of the individual railways.

The principal functions of the Central Publicity Bureau consist in the carrying out of all overseas propaganda with a view to stimulating the foreign tourist traffic to India and the developing of internal traffic, particularly lower class, on an all-India basis. Apart from these the Central Publicity Bureau co-ordinates the work done by the Railway Publicity Offices with a view to securing a free exchange of ideas, methods and material for propaganda; the formulating of a general policy in connexion with important festivals, *melas*, etc., and the simplification of procedure in connexion with advertising, trade advertisements, publications, joint publicity, etc. This co-ordination is achieved by meetings of the officers concerned. During the year under review four meetings were held and 79 subjects were discussed. The Railway Publicity Offices confine their activities principally to the fostering and development of traffic on their own railways. Each railway apportions certain sums necessary for its own publicity, which are expended principally in advertising local *melas* and festivals, as well as travelling facilities, concessions, etc., offered to the public.

The tourist industry throughout the world was adversely affected by the political conditions existing in Europe and the Far East, aggravated during the second half of the year by the serious international situation which arose in September. In spite, however, of these adverse conditions the number of enquiries received in the London Office in connection with travel to India was the highest on record. The New York Office was closed with effect from July 1938, and the work of answering enquiries from America was taken over by the London Bureau. The Central Publicity Bureau continued to supply the London Office with pamphlets, posters, photographs, etc., and assist in any other way that might conduce to the encouragement of tourists.

The Central Publicity Bureau, as usual, devoted considerable time towards the development of lower class travel. Intensive propaganda in this respect was undertaken in collaboration with railways in connexion with four *melas, e.g.*, (1) the Kartiki Mela, Garhmukhtesar, (2) the Hindola and Janam Ashtami Fair, Muttra, (3) the Mahabir Jayanti Jain Festival, Shri Mahabirji, and (4) the Kumbh Mela, Hardwar, which took place during the period 13th March and 20th April 1938, and a note on which was included in the Report for 1937-38. With regard to the first three *melas*, 214,000 handbills and over 67,000 folders were printed, in addition to the number of handbills and folders that were distributed by the railways themselves. A loudspeaker set, which was purchased during the course of the year, was lent to various railways for propaganda purposes. Special press and other propaganda was undertaken in Ceylon and Burma with a view to attracting Buddhists to pilgrimage centres in India. While the traffic emanating from Ceylon showed an increase on other years, the relative density of traffic from Burma was disappointing, probably due to the Indo-Burma riots which continued throughout the greater part of the year.

The appropriation for advertising included a sum of Rs. 40,500 in connexion with a special advertising campaign to promote intermediate and third class travel. The scheme was confined to areas served by East Indian Railway and Eastern Bengal Railway and on the East Indian Railway alone 107 different papers were utilised of which 17 were in English, 48 in Bengali, 30 in Hindi and 12 in Urdu. Of the balance, Rs. 2,000 was spent in Australia in order to attract Australian tourists, and Rs. 12,000 in India in connexion with *melas* and other third class traffic by advertising largely in the Indian press.

Five new posters and six new pamphlets (of which two were revised editions of older ones) were produced by the Central Publicity Bureau during the year. Of the pamphlets the most important production was the "Handbook of India" and its supplement. Descriptive accounts of the more important places of interest are given in the handbook, together with useful notes for the use of tourists. The supplement amplifies these notes by including information with respect to accommodation, rates, conveyances, etc. 100,000 copies of the "Handbook of India" were printed during the year, and so great was the demand for copies that, in spite of the fact that the supplies were only received in July, the stocks were practically exhausted by January 1939. Another production of interest was the illustrated souvenir "Magic of India". This book is a high class production and contains a collection of photographs in sepia and photogravure of the most interesting places in India.

The reciprocal exchange of posters and pamphlets with overseas railways and government departments was continued. The arrangement with Messrs. Thomas Cook & Son, Ltd., Port Said, for placing publicity literature and time tables on all east bound ships was also continued.

In view of the policy that the Indian Railways should concentrate their efforts on the development of lower class traffic rather than on upper class traffic, it was decided that the Indian State Railways Magazine should be discontinued, publication being suspended on the 1st October 1938.

Over 7,000 photographs were produced by the Photographic Section for propaganda purposes. These were distributed to travel, shipping and tourist agencies in India and abroad, to journalists, lecturers, schools, newspapers and railways.

69. Melas.—238 important *melas* and fairs were the subject of special propaganda by railways with a view to increasing the traffic thereto. This propaganda was undertaken by means of special handbills, folders and letter-press posters. There were many other festivals of a less important character which were advertised in the usual manner.

70. Handbills, folders, pamphlets and posters.—Handbills are usually used in connexion with *mela* traffic. They give a short description of the *mela*, indicate the principal dates and notify any special concessions. They serve as reminders to the public and are followed up by folders containing more detailed information regarding the significance of the *mela*, fares from important towns and junctions and further details regarding railway concessions.

Pamphlets are used to describe places of particular interest and give the information required by tourists of all classes. Their object is to create travel-mindedness and to serve as suggestions for tours, etc., and trips during holidays. These pamphlets are distributed free by railways and are made available in the offices of travel agents and in hotels.

The number of handbills, folders, pamphlets and posters printed and distributed amounted to more than: (i) 6,000,000 handbills, (ii) 1,076,000 folders and pamphlets, and (iii) 173,000 posters.

71. Cinema slides.—The use of coloured and other cinema slides has proved to be an effective means of advertising the various concessions and facilities offered. The Great Indian Peninsula Railway obtained the free exhibition of slides on ten different subjects in the leading cinemas of Bombay and its suburbs in exchange for the free display of cinema and theatre posters at Bombay (Victoria Terminus) and the Great Indian Peninsula Railway suburban stations. These slides were also displayed in the cinemas of the more important up-country towns on contract rates.

72. Loudspeaker unit.—With regard to *mela* traffic a new feature was introduced this year, namely the utilisation of a powerful loudspeaker unit. This was used by the Great Indian Peninsula Railway at Pandharpur and by the East Indian Railway at Hardwar and at several other *melas* during the year. Information was broadcast regarding concessions, special trains and their timings. The set was found most useful in directing and controlling crowds on platforms and in station premises.

73. Press advertising.—A considerable amount of advertising in local presses in the appropriate languages was undertaken by all railways.

74. Trade advertisements.—The revenue of most railways from this and allied sources was adversely affected by the unsettled conditions in Europe. The revenue obtained by some of the principal railways amounted to :—

	Rs.
Great Indian Peninsula Railway . . .	68,997 *plus* £58-6-3 for English contracts.
East Indian Railway	63,993
North Western Railway	49,702
Eastern Bengal Railway	47,401
Bombay, Baroda and Central India Railway .	57,991
Madras and Southern Mahratta Railway . .	16,953
South Indian Railway	49,215

75. Excursion special trains.—16 excursion sight seeing special trains carrying second and third class passengers were run over the East Indian Railway and 17 over the Bombay, Baroda and Central India Railway. Three third class conducted excursions were organized by the Eastern Bengal Railway, in addition to a " Pujah Bazar Special " which ran for a month and visited 12 stations on the broad gauge and 18 stations on the metre gauge and covered a total distance of 2,031 miles. 15 firms participated and it is estimated that about 250,000 people visited the train. As a result of special canvassing 60 excursion parties for students were organized on the South Indian Railway, in addition to eight all-India pilgrim special trains and 23 small excursion parties. The Great Indian Peninsula Railway ran one pilgrim conducted special and one students' tour.

76. Cinema car and cinema lorry.—The North Western Railway cinema car and cinema lorry continued its very useful propaganda activities. The former visited 147 stations and gave 241 shows to audiences estimated at 690,000, while the latter visited 383 important rural centres and gave 400 open air shows to audiences estimated at 500,000. The cinema car on the Eastern Bengal Railway was utilized in conjunction with a bazar special in order to attract people from the neighbouring towns and villages, and incidentally earned a sum of Rs. 1,694 on the exhibition of trade advertisement slides.

77. Exhibitions.—Information bureaux were installed by some of the railways at important exhibitions held in India. Models, posters, etc., were exhibited, literature distributed and enquiries attended to. It is estimated that about two lakhs of people visited the stall erected by the Great Indian Peninsula Railway in the grounds of the Industrial Exhibition in Poona. Models were lent by the East Indian Railway for exhibition in the new Industrial Museum in Calcutta. The South Indian Railway participated in eleven exhibitions and the North Western in two.

78. Publicity measures in connexion with competitive traffic.—Additional canvassers and special staff were utilized during *melas* and fairs to distribute literature, handbills, etc., to secure additional passenger and goods traffic. Wide publicity was given by special announcements in the press and by personal canvassing, handbills, etc., to the introduction of the various forms of concessions such as ' zone tickets ', ' go-as-you-please ', cheap ' suburban market and shopping tickets '.

79. Miscellaneous.—The experiment of providing music on one of the dining cars attached to the Frontier Mail, continued by the Bombay, Baroda and Central India Railway as an added amenity for travellers, was extended to the week-end Flying Ranee. A copy of the latest news from Reuters agency in the form of a news bulletin is distributed in these trains.

Charts, illuminated at night showing the allotment of berths of passengers proceeding to Bombay were an innovation at Howrah station.

CHAPTER VI.

RAILWAY COLLIERIES.

80. Railway Collieries.—The output from the principal railway collieries during 1938-39 compares with the previous year's output as follows :—

Colliery.	Owned by	Output (tons).	
		1937-38.	1938-39.
1. Bhurkunda	State	197,756	**168,086**
2. Kargali	State	852,790	**661,352**
3. Kurharbaree and Serampore	State	642,287	**646,376**
4. Joint Bokaro	E. I. & B. N.	1,080,739	**1,030,621**
5. Joint Sawang	E. I. & B. N.	68,211	**48,401**
6. Jarangdih	B., B. & C. I. and M. & S. M.	104,710	**95,823**
7. Talcher	M. & S. M.	204,062	**190,302**
8. Kurasia	B., B. &. C. I.	293,502	**283,266**
9. Deulbera (Previously known as Talcher).	B. N.	130,092	**136,687**
10. Argada	B. N.	286,838	**321,690**

80.1. State Railway Collieries.

Bhurkunda Colliery.—The quantity of coal despatched during the year from this colliery was 163,046 tons.

At Nos. 1 and 2 Kurse inclines coal was won by pillar extraction throughout the year. This coal fires readily through spontaneous combustion and as a precautionary measure to deal with any outbreak which might have occurred, the underground workings of Nos. 1, 2 and 3 inclines were isolated from each other by reinforced concrete water dams and brick stoppings while emergency steel doors were fitted on the remaining roadways. Consequent to this isolation scheme an independent travelling roadway was constructed at No. 1 Kurse and a cross measure drift was driven from No. 2 Kurse workings to No. 2 Nakara workings.

No sign of heating was discovered underground. Black damp was, however, occasionally exuded from the goaf.

Kargali Colliery.—The quantity of coal despatched during the year from this colliery was 661,352 tons.

Quarries.—A steam haulage was installed in quarry No. 1 for removal of overburden tubs. Girders of 55 feet span were erected on the end bridge from the west end of this quarry thus permitting a greater recovery of coal from the barrier.

In No. 2 quarry two more bridges were erected for conveying overburden to the dumping ground. One of the bridges is 200 feet and the other 50 feet

in length. No. 2 bridge in this quarry has been widened to provide for double tramline tracks. Fire continues to burn in the overburden of this quarry.

In No. 3 quarry the most westerly bridge was raised 8 feet to provide more room for dumping overburden which is accumulating particularly in this quarry. The average thickness is now 66 feet and coal lying to the extreme east of this quarry had to be stripped back in the direction of the outcrop of the seam.

Underground workings.—An arc face coal cutting machine was installed in the bottom section of the Kargali Seam. A complete panel of coal has rapidly been opened out by this means.

The east endless haulage rope was extended through the shaft leading to the west side and into the newly opened bottom section workings.

The Karo incline into top section workings as No. 2 quarry was opened out and development accelerated by the introduction of a coal cutting machine.

The main haulage plane and companion roads in the 12 foot seam incline made good progress. Gas was found on several occasions but was quickly removed.

Kurharbaree Colliery.—The quantity of coal despatched during the year from this colliery was 361,838 tons.

Development and de-pillaring proceeded normally throughout the year. The endless rope haulage in No. 1 side Kalimaran Pit was extended about 300 feet to the dip.

At No. 18 side—Joktiabad Pit a number of dams were installed to control the flow of water from Lunki Pahari and No. 19 side with the result that work was carried on uninterruptedly during the monsoon. A coal cutting machine was introduced during the year with a view to speeding up development work.

In Jubilee Pit at Nos. 1, 2 and 3 sides development was carried out steadily throughout the year. At Nos. 4, 5 and 7 sides pillar cutting was continued.

General.—During the year 13,506,466 units were generated from the power house.

An additional water tube boiler of 17,000 lbs. evaporative capacity was put into commission in January 1939 to cope with increased demands.

A tuberculosis ward was opened as an annexe to the General Hospital of the Giridih collieries.

The labour supply, however, during the early part of the year was below normal on account of intensive recruiting for the Jharia Coalfield.

Serampore Colliery.—The quantity of coal despatched during the year from this colliery was 339,759 tons.

Firedamp was met with frequently in Nos. 6, 7 and 8 galleries in the Deep Pit. Necessary precautions were promptly taken and the mining development proceeded.

The 16A Pit was closed and the rails, tubs, etc., were taken out from the mine for utilisation at the Deep Pit.

Coke and bye-product plant.—The plant worked satisfactorily, during the year. The outturn was as follows:—

		1937-38.	1938-39.
Coke	Tons	55,139	**45,740**
Coal tar	,,	2,050	**1,733**
Sulphate of ammonia	,,	534	**417**
Benzol	Gallons	56,848	**51,153**
Rectified solvent naphtha . . .	,,	3,210	**2,290**

East Indian and Bengal Nagpur Railways' Joint Bokaro Colliery.—The quantity of coal despatched during the year from this colliery was 1,030,621 tons.

An electric pump was installed at No. 1 quarry for water removal, thus permitting bottom coal to be worked. A gallery was driven on the floor of this bottom seam under the Gondanala in order that all water met with in the No. 1 quarry extension could be drained off and dealt with by the aforementioned pump.

In No. 2 quarry the dyke has been removed in one portion to allow the quarry to be extended up to the faults on the southern boundary. Haulages have been installed on the east and west sides in No. 3 quarry for removal of overburden.

East Indian and Bengal Nagpur Railways' Joint Sawang Colliery.—The quantity of coal despatched during the year from this colliery was 48,401 tons.

Output during the year was obtained partly from the quarries and partly from the inclines. Sandstowing operations went on satisfactorily throughout the year.

80.2. Company-managed Railway Collieries.

Bombay, Baroda and Central India and Madras and Southern Mahratta Railways' Jarangdih Colliery.—The quantity of coal despatched during the year from this colliery was 93,572 tons.

(i) *Shaft and incline workings.*—The shaft workings remained closed throughout the year and the water level in the shafts continued to rise.

Date.	Height of water at dumper.	Depth from surface to water level.
8th April 1937	255 feet	615 feet
1st April 1938	693 ,,	177 ,,
1st April 1939	780 ,,	90 ,,

In No. 3 incline section progress was retarded by the steep dip of the measure which is 1 in 2·4 or 24° and also by the very faulted strata through which the incline had to be driven. At the end of the year No. 3 had reached a distance of 2,580 feet from surface and as the drum of the haulage engine cannot contain more than 2,500 feet of haulage rope the limit of development to the dip in this section (with the present haulage) has now been reached.

The quality of the coal in this faulted area is poor and intrusions of stone into the seam are frequent. This is a usual condition near faulted areas in Jarangdih. Development in No. 5 incline proceeded normally and the main inclines made fair progress to the dip. The strata in this section is fairly heavily watered near the working faces.

No. 5 incline encountered the dyke in December 1938 and has made fair progress beyond where a new panel of workings was being opened out.

No. 13 Dip is being driven through the dyke to form ultimately the return airway from the new panel of workings opening out on the north side of No. 5 incline.

(ii) *Ventilation.*—The Sirocco fan circulated approximately 170,000 cubic feet of air per minute through the incline workings against a pressure of 1·05 inches water gauge.

Due to some unknown causes the lightning arrestors on the fan terminal post failed on two occasions and the fan motor was twice damaged by lightning during the year. A spare motor being available these breakdowns only caused stoppage of work for a few hours. A new type of lightning arrestors has been arranged for.

(iii) *Buildings.*—No buildings were erected during the year under review as a large number of quarters remained vacant. Much repair work was necessary.

(iv) *General.*—No new electrical works were carried out during the year.

As against the colliery consumption of 846,512 units of the previous year 901,092 units were consumed.

A 40 h.p. Mather & Platt turbine pump was received during the year and erected in No. 3 incline section.

(v) *Labour.*—Labour attendance was slightly better than in the previous year but there was the usual marked decline in attendance during the monsoon as the majority of the miners and loaders are still recruited from the agricultural classes.

Efforts were made to cope with the increased requirements of the railways during the monsoon period and as the allotment for the year could not be increased short time working of the mine was resorted to during February and March.

Madras and Southern Mahratta Railway's Talcher Colliery.—The quantity of coal despatched during the year from this colliery was 190,302 tons.

(i) *Gallery and underground workings.*—There was a progress of 41,281 feet in gallery drivage but the working of the top seam was discontinued throughout the year.

The south-eastern section of the underground property was opened up by suitable grading of the main road and relaying of track.

(ii) *General.*—Thirteen new 30 feet radius crossings were laid including those of a new by-pass in No. 1 East Panel main road.

A new 13 ton locomotive was put into commission from January 5th, 1939. Both the winding ropes of No. 2 pit were replaced during the year, and the construction of a brickwork covering and air lock with protected glass windows, fences, etc., was completed. Erection of a new Babcock & Wilcox boiler was completed during the year and was under working condition since 1st December 1938.

The No. 2 boiler was inspected by Messrs. Babcock & Wilcox, Ltd., on 20th and 21st December 1938. The end and front walls in the brickwork setting of No. 1 and No. 2 boilers were rebuilt.

One superheater pipe, 2 low water alarm pipes and 9 water tubes of No. 1 and No. 2 boilers were replaced by new ones.

The No. 1 turbine set was overhauled including the fitting of new bearings and sealing glands.

Two masonry drinking water tanks were put in hand and whilst one was completed during the year, the other required a further month's work. In addition to this work, a second block for *Sirdars* was completed.

(iii) *Labour.*—Attendance of local labour was not satisfactory during the first three months of the year due to early cultivation. Political unrest in Talcher State during the second half of the year made local labour difficult to obtain and raisings were seriously affected.

Bombay, Baroda and Central India Railway's Kurasia Colliery.—The quantity of coal despatched during the year from this colliery was 283,318 tons.

(i) *Underground workings.*—The faults and dykes encountered in course of development of the inclines were successfully overcome. The total progress during the year under review is as follows:—

No. 2 incline . . .	280 feet (progress hampered due to faults and dykes having been met).
No. 3 incline . . .	426 feet.

(ii) *General.*—The dead end of the broad gauge colliery siding has been linked up by the Bengal Nagpur Railway with one of their side tracks along the main line. This enables loaded wagons to be drawn out from the station end.

As usual, during the early part of the year scarcity of water was keenly felt, and in order to avoid this in the future, a reservoir near the existing overhead tank was built and connected with the springs found at Haldibari—a distance of about 4,500 feet.

There was a heavy fall of rain on 18th September 1938 which caused damages to the fan house, tramway embankment, railway sidings and dam.

The earthwork for widening the surface tramline banking was undertaken and completed.

Spontaneous heating was observed in the slack heap near the screening plant. As it was quickly dealt with, there was no appreciable loss. The heap affected contained about 600 tons of slack.

General.—The construction of the following works was undertaken and completed :—

(*a*) cabin at incline mouth;

(*b*) twenty blocks of *dhowrahs* with six rooms in each;

(*c*) reservoirs and dams near the overhead tank and at Haldibari spring;

(*d*) extension of overhead trolley line by 6,000 feet and replacement of wood posts by steel girders;

(*e*) electrification of gantry line;

(*f*) installation of new switch board panels in power house.

In addition, electric locomotive No. 1, two Bellis engines and one generator were overhauled and reconditioned and two Babcock & Wilcox boilers were inspected and tested.

(iii) *Labour.*—The supply of recruited labourers was not as plentiful as it ought to have been. There is a tendency amongst such labourers to go towards Jharia Fields in preference to this field partly because of the bad climatic condition obtaining in this area and partly on the false expectation of more wages on account of a rising market.

80.3. Staff welfare.—The health of the labour forces in all the collieries was good and the state of sanitation satisfactory.

81. Coal mined in India.—In 1938 the coal mined in the various provinces of British India amounted to 25,276,743 tons as against 22,335,528 tons in 1937 or an increase of 2,941,215 tons.

82. Coal despatched by rail.—The quantity of coal carried by the East Indian and Bengal Nagpur Railways was as follows :—

Railway.	Tons.
East Indian	14,554,400
Bengal Nagpur	8,790,828

83. Coal shipped from Calcutta.—Shipments including bunker coal from the port of Calcutta to Indian and foreign ports during 1938-39 amounted to 2,920,118 tons of which 29,164 tons were on account of Indian Railways as compared with 2,546,430 tons in 1937-38. 168,835 tons of Indian coal were shipped to the Ceylon Government Railway and 159,146 tons to the Burma Railways.

84. Coal tonnage inspected.—The State Railways' Coal Department inspected 7,723,656 tons of coal during 1938-39 as compared with 8,302,783 tons in 1937-38.

85. Indian Coal Grading Board.—The State Railways Coal Department continued to carry out work on behalf of the Indian Coal Grading Board during the year. The amount of cargo coal shipped under the Indian Coal Grading Board to various ports during 1938 was 2,206,841 tons and inspections were carried out by this Department both at the collieries and Kidderpore Docks.

CHAPTER VII.

ROLLING STOCK AND MATERIALS.

86. Additions to equipment.—During the year the following locomotives and rolling stock, including arrears brought forward from previous years, were on order for broad and metre gauge railways :—

Items.	Broad gauge.	Metre gauge.
Locomotives	43	62
Coaching stock	769	572
Goods stock	2,456	2,081

New locomotives and rolling stock actually placed on the line during the year were as under :—

Items.	Broad gauge.	Metre gauge.
Locomotives	9	24
Coaching stock	375	353
Goods stock	2,269	1,008

The numbers of coaching and goods stock shown are in terms of four-wheelers, a bogie being reckoned as two four-wheelers. These figures do not, however, represent the actual net additions to rolling stock as they also include vehicles built in replacement of stock which had reached the end of their economic life.

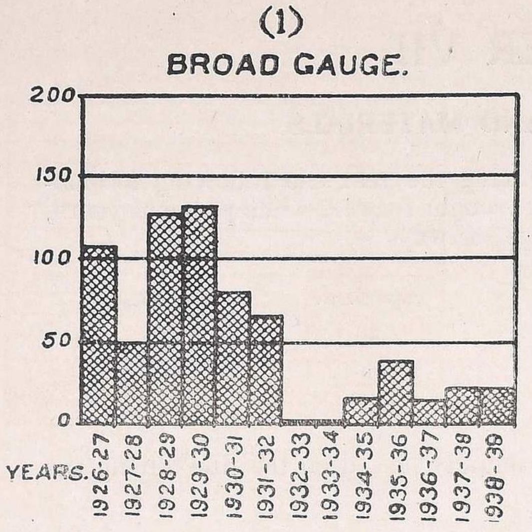
86.1. Engines.—31 broad gauge locomotives were scrapped during the year of which 9 were replaced so that the number on 31st March was 22 less than at the beginning of the year. On the metre gauge 24 locomotives were replaced, the number remaining the same as it stood at the beginning of the year. In the course of the year the average tractive effort per engine rose from 25,972 lbs. in 1937-38 to 26,025 lbs. on the broad gauge and from 14,818 lbs. in 1937-38 to 14,957 lbs. on the metre gauge.

86.2. Coaching vehicles.—The number of coaching vehicles on the broad gauge at the end of the year was 203 less than at the beginning as 578 were scrapped, of which 375 were replaced. On the metre gauge, however, the number was 38 more, as 315 were scrapped and 353 added.

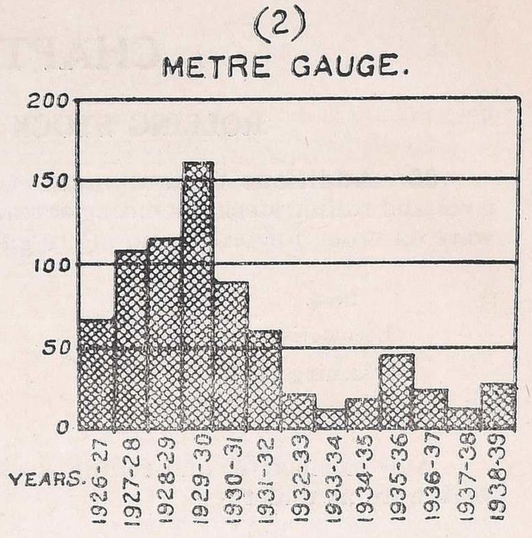
86.3. Wagons.—On the broad gauge 1,497 wagons were scrapped during the year against an addition of 2,269; on the metre gauge 640 were scrapped and 1,008 were added.

The graphs on the following pages show the total numbers of locomotives, boilers, carriages and wagons sanctioned in the programmes of Class I Railways during the past thirteen years. These figures include locomotives and rolling stock both as replacements and renewals.

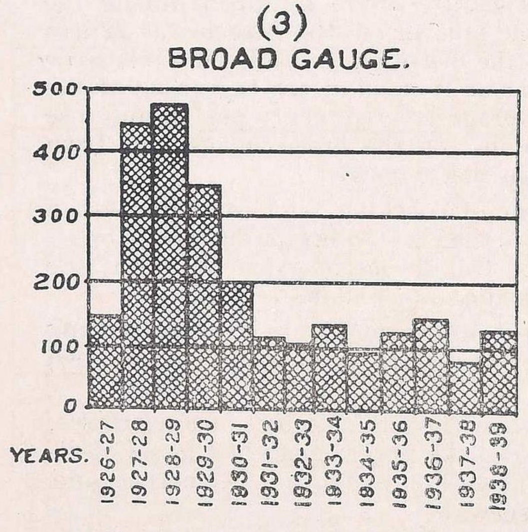
87. Improved utilisation of rolling stock.—This problem continues to receive the attention that its importance demands. The administrations have been advised that every effort should be made to employ existing types more intensively in order to reduce demands for new types. On the Bengal Nagpur Railway a system of pooling engines has been consolidated; and it is proposed to run passenger specials straight through between Calcutta and Nagpur (703 miles) and through goods trains between Khargpur and Nagpur (633 miles). On the Great Indian Peninsula Railway the work of modernising a B. E. S. A. 4-6-0 type engine for experimental purposes has reached an advanced stage, and a new method of control of engine workings is being tried out which it is hoped later on to extend to the whole system.



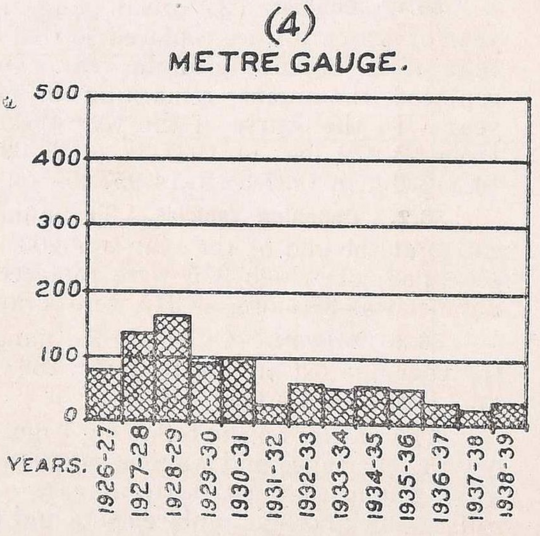
Number of locomotives sanctioned in the rolling stock programme.



Number of locomotives sanctioned in the rolling stock programme.



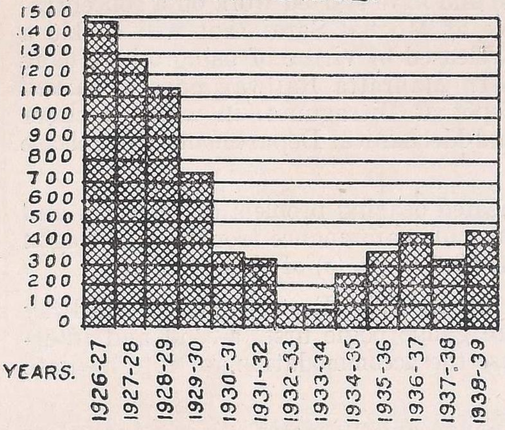
Number of boilers sanctioned in the rolling stock programme.



Number of boilers sanctioned in the rolling stock programme.

(5)

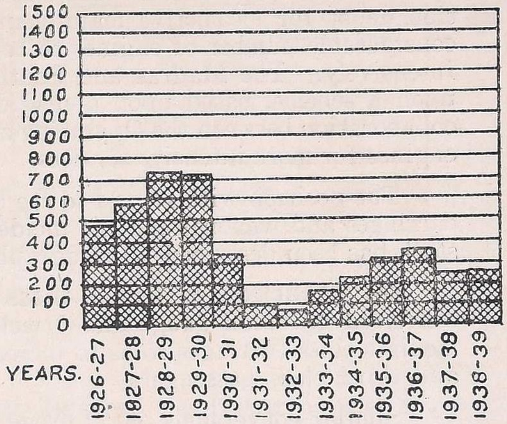
BROAD GAUGE.



Number of coaching stock units sanctioned in the rolling stock programme.

(6)

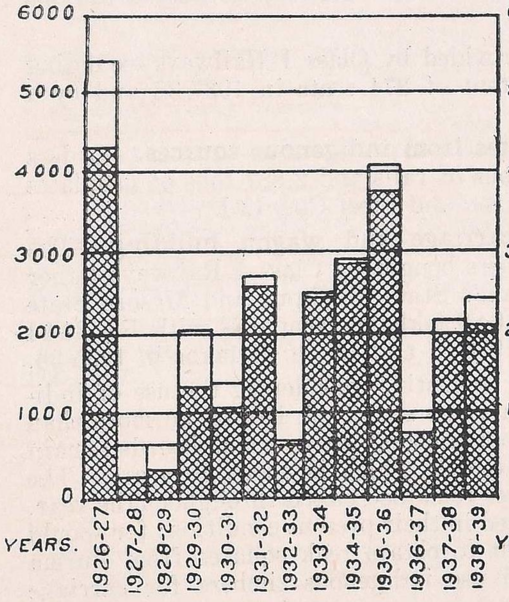
METRE GAUGE.



Number of coaching stock units sanctioned in the rolling stock programme.

(7)

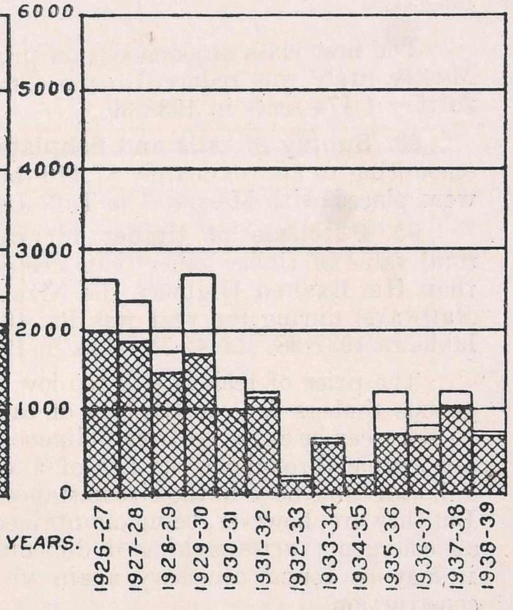
BROAD GAUGE.



General service and other types of wagons in units sanctioned in the rolling stock programme.

(8)

METRE GAUGE.



General service and other types of wagons in units sanctioned in the rolling stock programme.

General service wagons shown thus

Other types shown thus

On these two railways main line passenger engines frequently run between 7,000-9,000 miles per month. The Eastern Bengal Railway have established a high level of passenger and goods engine performances. The East Indian Railway have made experimental through passenger engine runs between Calcutta and Moghal Sarai (418 miles) and have started work on a concentration depôt for locomotive maintenance at Moghal Sarai that will enable a considerable number of engines to be released by virtue of using others more intensively. The Madras and Southern Mahratta Railway have embarked upon a scheme, based upon a new depôt at Bitragunta, in which a closer collaboration between the Operating and Mechanical Departments will release engines for more intensive services.

The position with regard to the heated bearing problem (locomotives and carriages and wagons) and the incidence of maintenance trouble with wagon stock has been described in paragraphs 99.1 (*b*) to (*e*) of this report.

88. Reduction of Upper Class stock.—The Eastern Bengal Railway converted 45 broad gauge and 6 metre gauge bogie first, second and intermediate class carriages so as to increase the accommodation for intermediate and third class passengers.

Similar conversions on 32 broad gauge and 19 metre gauge upper class carriages of the Madras and Southern Mahratta Railway were also completed whilst on the South Indian Railway the abolition of first class accommodation on certain services freed bogie carriages which were subsequently re-designed for partial third class accommodation.

On the North Western Railway the authorised stock of upper class carriages was reduced and five bogie first and second class carriages were converted to first, second, luggage and intermediate class.

All railways have examined the question of either abolishing entirely or reducing upper class accommodation on both branch line and main line services.

The first class accommodation provided by Class I Railways excluding Mysore State was reduced to the extent of 374 seats in 1937-38 and by a further 1,474 seats in 1938-39.

89. Supply of rails and fishplates from indigenous sources.—Orders amounting to approximately 87,110 tons of rails and 2,887 tons of fishplates were placed with Messrs. The Tata Iron and Steel Co., Ltd.

90. Purchase of timber for carriage and wagon building.—The total value of timber other than sleepers bought by Class I Railways (other than His Exalted Highness the Nizam's State, Jodhpur and Mysore State Railways) during the year was Rs. 46·83 lakhs as compared with Rs. 34·94 lakhs in 1937-38, Rs. 42·75 lakhs in 1936-37 and Rs. 40·28 lakhs in 1935-36.

The price of teak is still too low to justify considering the use of indigenous timbers for construction of carriage stock. A life of no more than 10 years can be expected from indigenous timbers, whereas teak boards remain serviceable throughout the life of a vehicle which is about 30 years. The Lillooah kilns have in the circumstances remained closed throughout the year. But they are, however, being maintained in their present condition; for should an emergency arise making it difficult to obtain teak squares from Burma it may be found necessary again to use indigenous timbers for carriage construction.

91. Wooden sleeper Purchase Organisation.—The total purchase of wooden sleepers during the last four years have been :—

	Number of sleepers in lakhs.			
	1935-36.	1936-37.	1937-38.	**1938-39.**
Broad gauge .	12·33	15·05	12·59	**13·64**
Metre gauge .	14·11	14·83	14·28	**15·23**
Narrow gauge .	1·42	1·71	1·61	**1·95**

The relative position of various kinds of sleepers can be seen from the following percentages, based on the total number of sleepers in the track of Class I Railways:—

1938-39.	Wood.	Cast Iron.	Steel.	Other kinds.
Broad gauge .	41·5	40·9	17·3	0·3
Metre gauge .	70·25	5·38	24·36	0·01

The wooden sleeper track mileage of all gauges on Class I Railways on March 31st, 1939, was 26,524·5 out of a grand total of 50,832·1 miles.

No wooden sleepers were imported, except from Burma. The prices of *sal* sleepers in the Eastern Group in 1938-39 averaged about Rs. 4-12-8 for broad gauge and Rs. 1-14-8 for metre gauge compared with Rs. 4-9-7 and Rs. 1-11-7 respectively in 1937-38.

At Dhilwan on the North Western Railway the following soft wood broad gauge and narrow gauge sleepers from coniferous trees were impregnated with a mixture of 40 per cent. creosote and 60 per cent. fuel oil.

—	Fir.	*Chir* pine.	*Kail* pine.	Deodar.	TOTAL.
1. Number of sleepers treated (broad gauge)	61,186	271,635	1,905	100,195	434,921
2. Average absorption of creosote per sleeper (40 per cent. of mixture) . lbs.	6·20	5·92	6·02	4·63	..
3. Average absorption of liquid fuel (60 per cent. of mixture) . . lbs.	9·25	8·86	9·04	6·92	..
4. Average total absorption per sleeper . . . . . lbs.	15·45	14·78	15·06	11·55	..
5. Approximate average absorption per cubic foot . . . . lbs.	4·944	4·73	4·82	3·696	..

In addition to above 1,000 narrow gauge *sal* sleepers and 12,084 wooden pieces (7,962 *chir* and 4,122 *fir*) for composite sleepers were also treated. The details of the cost of treatment and average absorption of mixture is given in the Sleeper Pool Committee Report for 1938-39.

The cost of treated sleepers, for the year 1938-39 was slightly higher than last year. This was due to the rise in the price of sleepers.

—	Average cost per sleeper untreated.	Cost of treating per sleeper, including freight of sleeper to Dhilwan.	Overhead and other charges, *i.e.*, control charges.	Total average cost of treated sleeper.
	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.
Deodar	4 12 5	0 15 2	0 3 3	5 14 10
Kail pine	3 8 0	1 2 6	0 3 3	4 13 9
Chir pine	3 12 10	1 7 11	0 3 3	4 14 0
Fir	2 13 3	1 0 8	0 3 3	4 1 2

The total amount spent on wooden sleepers on Class I Railways (excluding His Exalted Highness the Nizam's State, Jodhpur and Mysore State

Railways) was Rs. 1·02 crores in 1938-39 compared with Rs. 1·03 crores in 1937-38, and Rs. 1·12 crores in 1936-37.

The annual meeting of the Sleeper Pool Committee was held at New Delhi on the 7th November 1938.

92. Value of railway materials purchased.—The value of stores purchased by Class I Railways (excluding His Exalted Highness the Nizam's State, Jodhpur and Mysore State Railways which are mainly or wholly the property of Indian States) shows an increase from Rs. 15·01 in 1937-38 to Rs. 16·80 crores in 1938-39. Of the total increase of Rs. 179 lakhs, Rs. 120 lakhs were accounted for by " indigenous materials " and Rs. 59 lakhs by " imported materials ". The principal increases under both heads, as indicated in the statement below, were under rolling stock and stores such as hardware, copper, tin, zinc ware, etc. Under the former head purchases of permanent-way material and track tools increased by Rs. 31 lakhs.

(Figures in lakhs.)

Particulars.	Value of imported materials.			Value of indigenous materials.	Total purchases.	
	Purchased direct.	Purchased through agents in India.	Total imported materials.		1938-39	1937-38.
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
A. Bridge work and its parts, fittings and special fastenings.	1	2	3	6	9	11
B. Engineering plant and components including all hand and power machinery.	1	6	7	1	8	8
C. Workshop machinery, plant and equipment including pneumatic machinery and tools.	10	22	32	2	34	26
D. Permanent-way material and track tools	4	8	12	2,69	2,81	2,54
E. Rolling stock	1,08	1,41	2,49	1,38	3,87	3,11
F. Building materials, water mains, sewage system and track and yard enclosing materials and signal and interlocking materials, etc.	5	19	24	35	59	57
G. Stores hardware, copper, tin and zinc ware, all leather, canvas and India rubber in bulk, metals, painters' stores, timber and fuel and fuel oil, etc.	13	1,52	1,65	4,27	5,92	5,32
H. Electrical and train and Locomotive lighting plants and materials, etc., and telegraph and telephone equipment.	9	54	63	5	68	73
All other stores	5	91	96	1,46	2,42	2,29
Total .	1,56	4,95	6,51	10,29	16,80	15,01

93. Value of stores purchased by State-managed and Company-managed Railways during 1931-32 to 1938-39, value of stores purchased by those railways through the Indian Stores Department and value of stores purchases controlled by the Railway Board for those railways during that period.—A statement is given below showing the value of stores imported direct, imported stores purchased in India and indigenous stores purchased by the State-managed and Company-managed Railways during the years 1931-32 to 1938-39 together with the value of stores purchased by

those railways through the Indian Stores Department and also the value of stores purchases controlled by the Railway Board during the same period :—

(Figures in thousands of rupees.)

Railways.	TOTAL VALUE OF STORES PURCHASED.				Value of stores purchased through Indian Stores Department.	Percentage Column 6 to Column 5.	Value of stores purchases controlled by the Railway Board.	Percentage Column 8 to Column 5.
	Stores imported direct.	Imported stores purchased in India.	Stores of Indian manufacture or of indigenous origin.	Total.				
1	2	3	4	5	6	7	8	9
1931-32.								
State-managed .	1,03,23	2,91,56	5,47,71	9,42,50	1,18,08	12·53	4,51,48	47·90
Company-managed .	1,41,21	1,28,46	3,87,24	6,56,91	7,87	1·20	1,73,73	26·42
TOTAL .	2,44,44	4,20,02	9,34,95	15,99,41	1,25,95	7·87	6,25,21	39·10
1932-33.								
State-managed .	8,54	2,26,28	3,95,16	6,29,98	1,46,84	23·38	2,61,05	41·44
Company-managed .	79,00	1,07,12	2,87,83	4,73,95	4,70	0·99	95,87	20·23
TOTAL .	87,54	3,33,40	6,82,99	11,03,93	1,51,54	13·72	3,56,92	32·33
1933-34.								
State-managed .	6,81	2,50,63	4,94,51	7,51,95	1,70,93	22·73	3,22,17	42·84
Company-managed .	66,36	1,12,71	2,65,56	4,44,63	3,81	0·85	77,58	17·45
TOTAL	73,17	3,63,34	7,60,07	11,96,58	1,74,74	14·60	3,99,75	33·40
1934-35.								
State-managed .	5,40	2,57,11	5,42,69	8,05,20	2,53,51	31·48	3,48,19	43·24
Company-managed .	1,10,90	1,45,65	3,51,58	6,08,13	6,15	1·01	1,40,18	23·05
TOTAL .	1,16,30	4,02,76	8,94,27	14,13,33	2,59,66	18·37	4,88,37	34·55
1935-36.								
State-managed. .	6,37	3,36,88	6,14,15	9,57,40	2,78,11	29·05	4,05,78	42·38
Company-managed .	1,23,99	1,32,21	3,43,68	5,99,88	6,76	1·13	1,40,28	23·38
TOTAL .	1,30,36	4,69,09	9,57,83	15,57,28	2,84,87	18·29	5,46,06	35·06
1936-37.								
State-managed .	5,31	2,58,65	5,33,26	7,97,22	*3,29,44	41·32	3,17,91	39·88
Company-managed .	1,18,12	1,18,13	3,30,41	5,66,66	28,32	5·00	1,10,46	19·49
TOTAL .	1,23,43	3,76,78	8,63,67	13,63,88	3,57,76	26·23	4,28,37	30·69
1937-38.								
State-managed .	37	3,22,00	5,46,75	8,69,12	†3,83,53	44·13	3,06,99	35·32
Company-managed .	1,24,71	1,45,30	3,61,52	6,31,53	7,71	1·22	1,34,37	21·27
TOTAL .	1,25,08	4,67,30	9,08,27	15,00,65	3,91,24	26·07	4,41,36	29·41
1938-39.								
State-managed .	**10**	**3,42,55**	**5,95,06**	**9,37,71**	**‡3,76,15**	**40·11**	**3,49,16**	**37·24**
Company-managed .	**1,55,80**	**1,52,93**	**4,33,72**	**7,42,45**	**8,39**	**1·13**	**1,47,96**	**19·93**
TOTAL .	**1,55,90**	**4,95,48**	**10,28,78**	**16,80,16**	**3,84,54**	**22·89**	**4,97,12**	**29·59**

* Purchases to the value of Rs. 97,198 for the Chief Mining Engineer, Railway Board, Rs. 5,043 for the Central Publicity Bureau, Indian State Railways, and Rs. 251 for the Railway Clearing Accounts Office made through the Indian Stores Department during 1936-37 are omitted from this figure.

† Purchases to the value of Rs. 5,51,611 for Chief Mining Engineer, Railway Board, Rs. 9,001 for the Central Publicity Bureau, Indian State Railways, and Rs. 413 for the Railway Clearing Accounts Office made through the Indian Stores Department during 1937-38 are omitted from this figure.

‡ Purchases to the value of Rs. 7,33,851 for the Chief Mining Engineer, Railway Board, Rs. 2,191 for the Central Publicity Bureau (Indian State Railways) and Rs. 563 for the Railway Clearing Accounts Office are omitted from this figure.

It will be seen that the value of stores imported direct by the State-managed Railways has decreased from Rs. 37 thousand in 1937-38 to Rs. 10 thousand in 1938-39. The percentage of the value of indigenous stores to the total value of all stores purchased by the State-managed Railways has increased from 62·91 in 1937-38 to 63·46 in the year under review. The value of stores purchased by the Indian Stores Department on behalf of State-managed Railways declined by 1·9 per cent. due chiefly to the powers of the Controller of Stores of State Railways to make direct purchase of stores (which are to be obtained through the Indian Stores Department) having been raised from Rs. 250 to Rs. 1,000 for purposes of administrative convenience. This setback is likely to be of a temporary nature only, in consequence of the purchase through the Indian Stores Department of the additional items referred to later in this Report.

In the case of Company-managed Railways, the percentage of the value of indigenous stores to the total value of all stores purchased by those railways

has increased from 57·24 in 1937-38 to 58·42 in 1938-39. The value of stores purchased through the Indian Stores Department also increased from Rs. 7·71 lakhs in 1937-38 to Rs. 8·39 lakhs during the year under review.

94. Purchase of Stores by railways through the Indian Stores Department.—The total value of stores purchased by all railways through the agency of the Indian Stores Department during the year under review amounted to Rs. 4,05,49,724 of which Rs. 29,52,948 represented the value of textiles and leather and Rs. 3,75,96,776 the value of engineering, hardware and miscellaneous stores. The list of items the purchase of which by the State-managed Railways through the agency of the Indian Stores Department is obligatory was reviewed and the following more important items of railway stores were added to the list:—

Composition flooring.

Chains, iron, steel, brass, etc.

Pressure lamps and fittings ("Petromax", "Washington", "Coleman", "Kitson", etc.).

Copper tubing.

Copper ingot.

Copper rods.

Brass rods and bars.

Bronze rods and bars.

All items under class E (*a*) 1—Steam locomotives and their parts and fittings—except complete locomotives and locomotive boilers.

All items under class F 2—Signalling and interlocking material—except colourlight and electro-pneumatic equipment.

95. Air-conditioned coaches.—The indications mentioned in the last report that the outlay incurred on six first class air-conditioned coaches would be amply justified has been confirmed.

Five such coaches were constructed by the Bombay, Baroda and Central India Railway and placed in service on the Bombay-Delhi-Kalka section.

As a result of successful working with the initial equipments and proved public appreciation, the North Western Railway were authorised to prepare estimates for the construction of seven upper class air-conditioned coaches to run on the Delhi-Peshawar and Lahore-Karachi sections.

96. Cost of maintenance and supply of locomotive power and cost of maintenance and operation of carriage and wagon stock.—The results obtained during the year under review and the twelve previous years in regard to the cost of maintenance and supply of locomotive power under the three major heads of accounts (running repairs, workshop repairs and operating expenses) and also of the cost of maintenance and operation of carriage and wagon stock per 1,000 gross ton miles, for both broad and metre gauges of the Class I Railways in India, are reproduced in graphic form on the two following pages.

97. Central Standards Office for Railways.

97.1. Civil Engineering Branch.—During the year under review, the Civil Engineering Branch of the Central Standards Office **standardized and issued** the following drawings:—

Bridges—

(i) 350 feet span high tensile steel truss girders—standard profile;

(ii) broad gauge masonry arched bridges of 4 feet, 6 feet and 25 feet spans for M.L. loading; and

(iii) general arrangement of masonry arched bridges for minimum and maximum embankments for broad gauge;

Permanent-way—

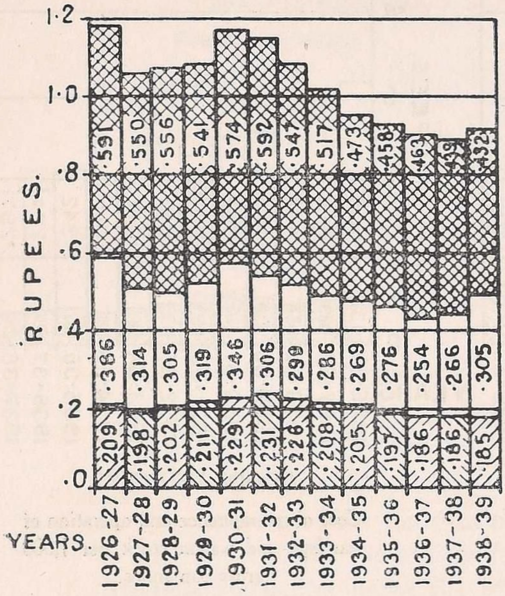
(i) gathering line layouts for 90R. F.F.—turnout from (*a*) the straight, and (*b*) a turnout with 1 in $8\frac{1}{2}$ crossings;

Running repairs shown thus
Workshop repairs shown thus
Operating expenses shown thus

COST OF MAINTENANCE AND SUPPLY OF LOCOMOTIVE POWER PER 1,000 GROSS TON MILES.

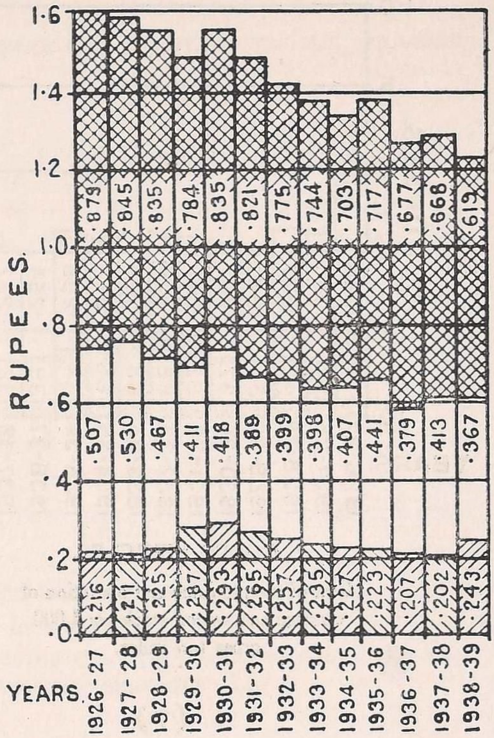
(1)

BROAD GAUGE.



(2)

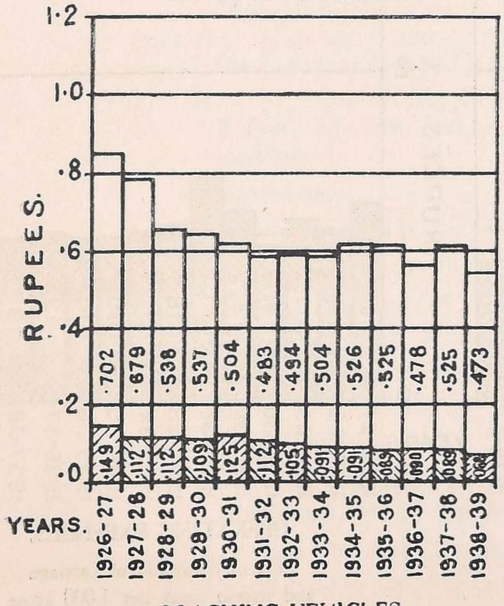
METRE GAUGE.



COST OF MAINTENANCE AND OPERATION OF CARRIAGE AND WAGON STOCK PER 1,000 GROSS TON MILES.

(3)

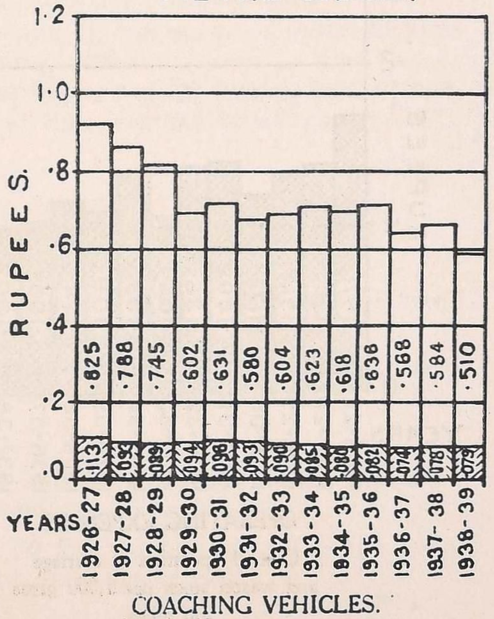
BROAD GAUGE.



COACHING VEHICLES.

(4)

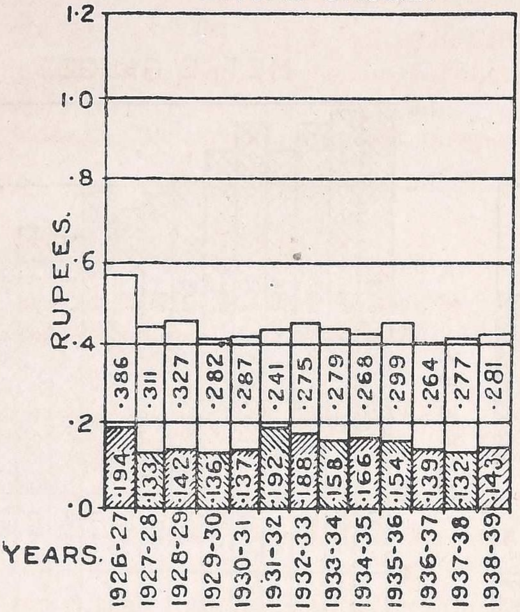
METRE GAUGE.



COACHING VEHICLES.

Running repairs shown thus
Workshop repairs shown thus
Operating expenses shown thus

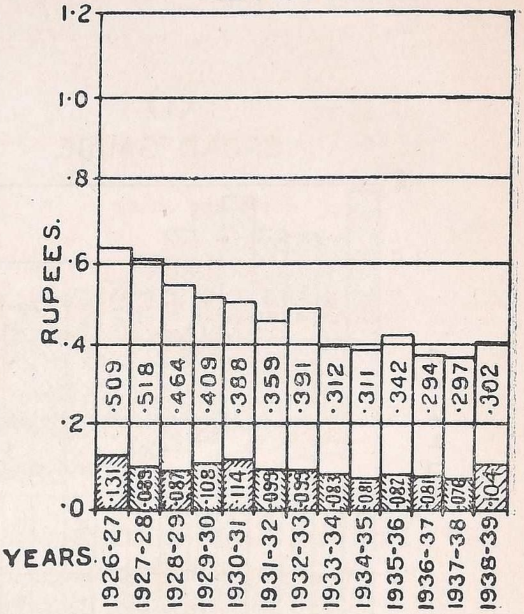
(5) BROAD GAUGE.



GOODS VEHICLES.

Cost of maintenance and operation of carriage and wagon stock per 1,000 gross ton miles.

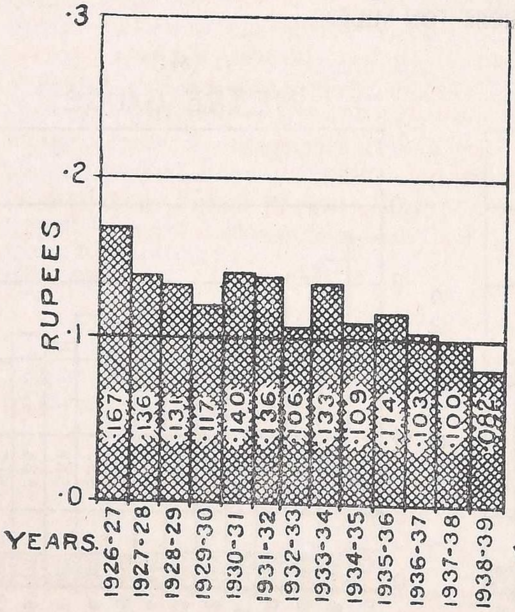
(6) METRE GAUGE.



GOODS VEHICLES.

Cost of maintenance and operation of carriage and wagon stock per 1,000 gross ton miles.

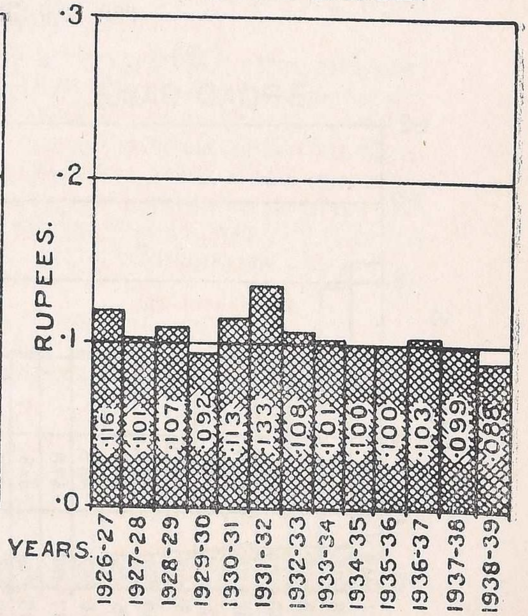
(7) BROAD GAUGE.



OPERATING EXPENSES.

Cost of operation of carriage and wagon stock per 1,000 gross ton miles.

(8) METRE GAUGE.



OPERATING EXPENSES.

Cost of operation of carriage and wagon stock per 1,000 gross ton miles.

(ii) alternative design of 1 in $8\frac{1}{2}$ left turnout with 15 feet 6 inches over-riding switch for 90R. F.F.;

(iii) combination fishplates for 115 and 90R; 90R and 75R; 90R and 75B.S.; 75R and 60R; 60R and 50R; 60R and 50 B.S. and 60R and 50 N.S. rail sections;

(iv) C.I. bearing plate for 90R and 90 B.S. F.F;

(v) alternative design of a leading insulated stretcher bar for broad gauge; and

(vi) longer steel sleepers to support throw-over levers, etc., in steel sleeper turnouts.

Roofs and sheds—

(i) roofs over 27 feet, 31 feet, 35 feet and 53 feet wide island passenger platforms, broad gauge;

(ii) roofs over 23 feet, 25 feet, 27 feet, 30 feet and 31 feet, 34 feet 8 inches, 40 feet, 41 feet and 53 feet wide island passenger platforms—metre gauge;

(iii) 17 feet wide platform shelter for broad gauge; and

(iv) 17 feet and 21 feet wide platform shelters for metre gauge.

Signalling and Interlocking—

(i) goose and swan necks for coupling and butt ends;

(ii) insulated rod joint for butt and coupling ends;

(iii) counterweight levers type B; and

(iv) drive fit and threaded type grease nipples for pressure lubrication.

Miscellaneous—

(i) light and heavy inspection trollies for broad gauge; and

(ii) light inspection trolley for metre gauge.

In addition to the above, the following drawings were prepared by the Central Standards office and issued as **tentative standards**:—

Bridges—

(i) broad gauge plate girders of 15 feet, 20 feet, 30 feet, 40 feet and 60 feet spans of mild steel for B.L. loading;

(ii) metre gauge plate girders of 10 feet, 12 feet, 15 feet, 20 feet, 30 feet, 40 feet and 60 feet spans of mild steel for B.L. standard and of 15 feet span of mild steel for M.L. standard;

(iii) R.C. slab top 6 feet, 8 feet and 12 feet spans of twin slab type for metre gauge M.L. loading; and

(iv) R.C. pipe culverts $1\frac{1}{4}$ feet, $1\frac{3}{4}$ feet, 2 feet, $2\frac{1}{4}$ feet, $2\frac{1}{2}$ feet, $2\frac{3}{4}$ feet, 3 feet, $3\frac{3}{4}$ feet and 4 feet diameter for broad gauge, M.L. loading.

Permanent-way—

(i) reversed jaw CST. 9 C.I. sleepers for 115R and 90R. F.F.;

(ii) 1 in $8\frac{1}{2}$ spring crossing for 90R;

(iii) rail free Duplex C.I. joint sleeper (flat bottom type) for broad gauge $88\frac{1}{2}$ lb. B.H. and 100 lb. D.H. (E. I. R.); and

(iv) steel sleepers for 1 in $8\frac{1}{2}$ gathering line from straight with two-way keys and loose jaws for broad gauge 90R. F.F.

Roofs and sheds—

(i) roofs over 47 feet, 54 feet and 61 feet wide island passenger platforms, broad gauge; and

(ii) roofs over 24 feet, 47 feet, 50 feet, 54 feet and 60 feet 8 inches wide island passenger platforms, metre gauge.

Signalling and Interlocking—

(i) tubular poles;

(ii) Unit detector layouts; and

(iii) siding markers.

Miscellaneous—

(i) Heavy inspection trolley for metre gauge.

97.2. Mechanical Engineering Branch.—The Mechanical Drawing Office, in addition to the investigation and design work resulting from the recommendations made at the meetings of the Locomotive and Carriage and Wagon Standards Committees held during the year under review, was constantly utilised by the Officer on Special Duty for preparation of drawings in connection with the experimental fittings required for the investigation of the heated bearing problem. As usual, master sets of part drawings relating to I.R.S. wagons, underframes, automatic vacuum brake, coaching bodies and track tools were kept up to date. The number of new wagon, underframe, track tools and carriage part drawings prepared and issued by the Mechanical Drawing Office during the year, approximates to about 450. About 30 locomotive and 23 carriage and wagon trials were in progress during the year. Contractor's drawings relating to details of the " WL ", " WM ", " WUs ", " WV " and " WW " series locomotives continued to be received for approval through the Consulting Engineers, London. Particular specifications were prepared for XE class engines and various I.R.S. underframes and wagons included in the combined call for 1939-40.

The Consulting Engineers' report on the high incidence of failure of I.R.S. and B.E.S.A. connecting rods was received during the year and placed before the Locomotive Standards Committee. The report contains recommended dimensions for rods for existing engines as well as formula on which new designs should be based.

It has been arranged that all coupling rods which fail shall be sent to the Metallurgical Inspector, Indian Stores Department, Tatanagar, to enable him to compile a statistical analysis of failures which may yield valuable results.

The Consulting Engineers' report on connecting rods is expected to be received during the year 1939-40.

The Metallurgical Inspector at Tatanagar was also requested to examine the failures of locomotive driving wheel tyres reported on by railways.

In consultation with the Consulting Engineers, a revised specification for locomotive engines and tenders was prepared and issued.

97.3. Specifications Branch.—During the year under review, the Specification Section of the Central Standards Office standardized and issued new Indian Rialway Standard specifications for the following :—

(*a*) lavatory fittings for upper class carriages;

(*b*) India rubber articles used in railway carriages;

(*c*) locomotive turntables;

(*d*) combination fishplates.

(*e*) inspection trollies, material trollies or lorries and duplicated lorries (applicable to all gauges).

22 I.R.S. specifications were revised and re-issued, while 15 were modified through the issue of corrigendum or addendum slips. 4 I.R.S. specifications were cancelled and Indian Stores Department Standard specifications were adopted in lieu thereof. In addition 33 Indian Stores Department Standard specifications and 2 B.S. specifications were adopted for use on railways.

16 new I.R.S. specifications for the following items have been drafted and will be issued as standard specifications shortly :—

(*a*) reinforced concrete pipes for use as culverts;

(*b*) double wire signalling ropes;

(*c*) double wire interlocking frame;
(*d*) timber used on railways;
(*e*) forges, portable;
(*f*) vices;
(*g*) dust bins;
(*h*) builders, hardware;
(*i*) hydrants, fire and water;
(*j*) push button or master switch operated starting and control gear, fully interlocked, for A.C. polyphase induction motors up to 650 volts;
(*k*) flood light projectors for lighting of railway yards;
(*l*) static condensers for the improvement of power factor;
(*m*) semi steel for horn cheeks;
(*n*) puddled iron sheets (for wagon body panels);
(*o*) train lighting belting for railways;
(*p*) push button or master switch operated starting and control gear, fully interlocked, for D.C. motors up to 650 volts.

98. Standardization Committees.—Details of the work performed by the various Standardization Committees during the year are given below:—

98.1. Locomotive Standards Committee.—A meeting of the Committee was held during December 1938. Trial reports and modifications to I.R.S. fittings suggested by railways were placed before the Committee. The following are some of the important subjects dealt with:—

(*a*) results of trials of alloy steels and alloy cast irons for wearing parts;
(*b*) design of firebox tube plates;
(*c*) trials of exhaust injectors;
(*d*) trials of renewable piston bull rings;
(*e*) trials of multiring piston valves;
(*f*) Consulting Engineers' report on failure of coupling rods;
(*g*) Madras and Southern Mahratta Railway's report on experience gained with engines having reciprocating parts unbalanced;
(*h*) specification for wheels and axles;
(*i*) methods of fastening for locomotive tyres;
(*j*) trials of modified designs of axleboxes;
(*k*) dust shielding of axleboxes;
(*l*) height adjustment and weighment of I.R.S. engines;
(*m*) design of tender brake blocks to reduce uneven wear; and
(*n*) I.R.S. specification E 9 for locomotive headlights.

A Sub-committee was held on 9th/10th January 1939 to consider height adjustment and weighment of I.R.S. locomotives.

98.2. Carriage and Wagon Standards Committee.—A meeting of the Carriage and Wagon Standards Committee was held in March 1939 when, in addition to a number of suggested modifications to wagon, underframe and coaching stock details, the following subjects were dealt with:—

(*a*) improvement in the riding qualities of 4-wheeled stock;
(*b*) coaching body construction drawings;
(*c*) use of light alloys for coaching body details;
(*d*) standardization of side lamp details;
(*e*) alternative materials for roof tanks for coaching stock;
(*f*) trials of water raising apparatus;
(*g*) latrine pans and flushing arrangement standardized;
(*h*) a new design of 27′ 6″ high sided open wagon;
(*i*) provision of relief valves on tank wagons;

(*j*) trials of modifications to improve riding of metre gauge bogie coaches;

(*k*) turned end axleguard bridle rod standardized;

(*l*) $\frac{5}{8}''$ thick top plates standardized for wagon springs;

(*m*) light type brake gear for broad gauge bogie underframes;

(*n*) narrow strips for lower panels of wagons;

(*o*) weather-proofing of wagon doors;

(*p*) adoption of general rivet lists for wagons; and

(*q*) axlebox gauges.

98.3. Bridge Standards Committee.—The Committee met in January 1939, and made recommendations on the following :—

(*a*) the desirability of altering rules for " pre-stressing lattice girder spans ";

(*b*) the necessity for preparing standard designs for reinforced concrete box culverts and square arch openings;

(*c*) the applicability of Indian Railway Standard broad gauge masonry arched bridge designs to metre gauge requirements;

(*d*) the drafting of an addendum and corrigendum slip to rule 33 of the Bridge Rules—working stresses in wrought iron;

(*e*) criticism regarding the effective length of secondary members as specified in rule 40 of the Bridge Rules;

(*f*) suggestion to revise rule 30 of the Bridge Rules regarding " Rollers ";

(*g*) proposals to modify the requirements of wind pressure to be allowed for in the designs of :—

(i) loaded highway bridges, and

(ii) concrete structures having large flat surfaces;

(*h*) proposals for research on semi-through plate girders, particularly as affected by welding, made by the Panel on Plate Girder Bridges of the Institute of Welding, and the extent to which research for or collaboration in India in this work should be undertaken;

(*i*) the provisional I.R.S. Code of Practice for Electric Arc Welding of Wrought Iron and Steel Structures with a view to putting it in shape for final issue;

(*j*) consideration of the supplementary report on the results of additional tests carried out to determine the effect of welding on a member under stress, submitted by the North Western Railway;

(*k*) progress in the science of soil mechanics applied to the stability of foundations;

(*l*) reports on cast iron, rubber and " Plasco " sleeper pad plates and consideration of the views expressed by Class I Railways on the question of adopting a uniform thickness of sleepers on bridges;

(*m*) the views of manufacturers regarding the modified type of expansion rocker bearing for lattice girder bridges;

(*n*) the designs of abutments and piers for girder bridges, prepared by the Central Standards Office, and proposals submitted by members of the Committee for buried pier abutments of " H " section with arched openings, designed to reduce to a minimum any unbalanced earth pressure;

(*o*) the comments of Class I Railways on the draft Indian Railway Standard Code of Practice for Concrete Construction other than Reinforced Concrete Construction;

(*p*) the subject of carrying out fatigue tests on full size all-welded plate girders; and

(*q*) a Paper on the Impact Effect on Bridges due to normally balanced locomotive compared with locomotives of the same type re-balanced for " *nil* " reciprocating parts, submitted by the Madras and Southern Mahratta Railway.

98.4. Track Standards Committee.—The Committee met in January 1939, and made recommendations on the following:—

(*a*) East Indian Railway's report on experiments to determine the wear diminishing effects of heat treating the surface of frog points and wing rails of crossings;

(*b*) use of short lengths of rails in preference to standard lengths of 42 feet for points and crossings;

(*c*) proposal either to lengthen the cast iron nose blocks in crossings or to shorten the nose of the crossing with a view to bring the ends of the blocks flush with the nose of the crossing;

(*d*) designs of insulated gauge tie plates;

(*e*) desirability of permitting as a permissible alternative standard the provision of ramp in the wing rails of crossings by drawing out the web or by deforming the head of the rail;

(*f*) desirability of reviving CST 9 type cast iron sleepers with short tie bars on the grounds of economy resulting from their use;

(*g*) reconditioning of fishplates;

(*h*) suitability of drawings of insulated rail joints;

(*i*) possibilities of lubricating rails on curves and at points and crossings with a view to mitigating wear;

(*j*) suggestion to modify the special fishplate section in the standard type rail expansion joints;

(*k*) note on diamond crossings and a design of " switch diamonds " prepared in the Central Standards Office;

(*l*) drawings of 1 in 8½ left hand 90R broad gauge spring crossings prepared by the Central Standards Office;

(*m*) designs of metre gauge trollies;

(*n*) designs for broad gauge crossovers;

(*o*) suggestions for the design of insulated metre gauge stretcher bars;

(*p*) location of leading stretcher bars in metre gauge switches;

(*q*) necessity of altering machining of nose of crossings with a view to avoid fractures due to hammering of the nose in the case of crossings laid on steel sleepers;

(*r*) method of binding the ends of bridge sleepers;

(*s*) question of adopting a uniform thickness of sleepers on bridges; and

(*t*) suggestion for design of R.C. sleepers for use in station yards.

98.5. Signalling and Interlocking Standards Committee.—The Committee met in December 1938, and made recommendations on the following:—

(*a*) recessing of grease nipples;

(*b*) standardization of designs of clamps;

(*c*) standardization of drawings for rotary detectors;

(*d*) point slide detector assembly drawings;

(*e*) desirability of standardizing point levers and trailable point levers;

(*f*) modifications to certain drawings;

(*g*) designs of marker posts;

(*h*) desirability of standardizing electrical lamps for railway signalling;

(*i*) suitability of double wire signalling installation on the Assam Bengal Railway for unrestricted speed and to draft the minimum essential requirements for such installations and to draw up specifications for double wire lever frames and interlocking rules;

(*j*) suggestion for design of insulated metre gauge stretcher bars;

(*k*) adoption of British Standard specification No. 480—1933, for dimensions of metal-sheathed paper-insulated plain annealed copper conductors for electricity supply for use on Indian Railways;

(*l*) suggestion to revise I.R.S. drawings of signal and point indicator lamps;

(*m*) drawings of insulated rail joints;

(*n*) standardization of signal poles and bracket poles;

(*o*) drawings of insulated gauge tie plates; and

(*p*) designs of split stretcher bars for facing point locks.

98.6. Standing Committee on Standards and Specifications for Indian Railways.—There was no meeting of the Committee this year on account of a large number of reports of trials and investigations not being available.

98.7. Electrical Standards Committee.—The Electrical Standards Committee met in Simla on the 8th of August, 1938:—

(*a*) 7 draft Indian Stores Department specifications for electrical equipment and 19 other subjects were considered.

(*b*) *Electrical wiring of railway buildings.*—The Committee recommended that the Indian Railway Standard Conditions of Contract No. A 6-37 should be accepted by all railways and used in conjunction with their own technical wiring specification designed to meet local conditions and systems, with due regard to the principles laid down in the Regulations for the Electrical Equipment of Buildings published by the Institution of Electrical Engineers of Great Britain, the local Fire and Insurance Regulations and the Indian Electricity Act and Rules.

(*c*) *Lubricants for electrical purposes.*—The Committee recommended that the demands for lubricants for Electrical Departments should be brought into line with those of the Mechanical Departments in cases where the lubricants are required for plant of a similar nature.

(*d*) *Internal lighting of coaching stock.*—The Committee recommended that railways be asked to investigate and report on the effect of introducing the undermentioned average minimum standards of illumination for—

(i) first class compartments—2 foot-candles.	When measured at a plane 33 inches above floor level.
(ii) second class compartments—1·5 foot-candles.	
(iii) intermediate class compartments—1 foot-candle.	
(iv) third class compartments—0·75 foot-candle.	

(*e*) The Committee also recommended the preparation of I.R.S. Specifications for seven new items.

99. Research and Development.—The following are some of the important items in hand during the year :—

99.1. Mechanical Branch—

(*a*) *Paints.*—The report of the Paint Technologist referred to in the last year's report was received. A Sub-Committee composed of Mechanical Engineers, the Director, Industrial Research Bureau and the Superintendent, Government Test House, Alipore, was appointed to examine the report and submit recommendations. It is expected that considerable headway on the question of paint technique will be made during the year 1939-40.

(*b*) *Analysis of wagon defects.*—The 1937-38 Administration Report contained a reference to an analysis of wagon defects which was expected to throw light on the principal causes of maintenance expenditure. The results of these investigations have been placed before the various administrations with a view to enabling them to concentrate upon the elimination of defective details so far as this can be economically justified. In addition, the report has been considered by the Central Standards Office with special reference to the detailed design of new wagons.

The investigations have brought to light that the ends of large numbers of wagons become bulged owing to the shifting of loads under heavy buffing shocks. A new design of pressed steel end, which has more than double the strength of existing ends, has been evolved for application to all new vehicles.

The high incidence of spring defects which the investigation brought to notice, was followed up by a special additional analysis in which the source of the trouble was traced. The trouble occurs only on the pre-I.R.S. wagons, but it was found that it would not be a financially sound proposition to change the design.

Similarly the high incidence of axle guard defects has led the Central Standards Office to evolve a new design of axle guard which has eliminated the trouble experienced with earlier types.

There is reason to expect that the results of this investigation will be reflected not only in a gradual reduction in the number of wagons undergoing sick line repairs but in the cost of unit repairs in sick lines and mechanical workshops.

(*c*) *Heated bearing problem.*—The investigation of this problem is being continued and it is expected that the subject will be reported upon during 1939-40.

(*d*) *Wagon door leakage.*—The results of the tests carried out by the North Western Railway to determine the correctness of the view that leakage is induced by airflow were placed before the Carriage and Wagon Standards Committee, who recommended that further trials should be conducted on a Bengal Nagpur Railway wagon fitted with their new type of door.

(*e*) *Corrosion tests.*—Panel plates referred to in last year's report were kept under observation, but it will probably take some years for determining the material best able to resist corrosion. A number of wagons with panel plates of " Tiscor ", a corrosion resisting steel of which Messrs. The Tata Iron and Steel Company have manufacturing rights in India were placed in service as an experimental measure.

(*f*) *Light weight coaching stock.*—In view of the considerable rise in tare per 100 passengers in coaching stock during recent years, due largely to the provision of increased amenities to third

class passengers and also with the object of minimising damage and loss of life in accidents, the question of a design of all-steel coaching stock was under active consideration. Indian manufacturing firms were asked to submit designs for trial purposes. The Madras and Southern Mahratta Railway also carried out experiments on behalf of the Central Standards Office with a design of all-steel coaching stock on the lines of the Vierendeel truss.

99.2. Civil Engineering Branch—

(*a*) *Stresses in track.*—Experimental work was continued throughout the year and extended to measurement of flange forces set up by locomotives and causes of oscillation. The report on Track Stresses Research was completed and will be published shortly. It contains details of all experiments and tests together with formulae for calculating the stresses and deflections in rails for varying conditions.

(*b*) *Heat treatment of crossings.*—The heat-treated chrome crossings laid on the East Indian Railway nearly two years ago have behaved satisfactorily. The wear is approximately 40 per cent. of that in untreated chrome crossings. Trials are now being made with 12 sets of heat-treated crossings made of ordinary carbon rails.

(*c*) *Reconditioning of old fishplates by hot pressing.*—Trials show that it is economical to recondition fishplates by hot pressing and that such plates give satisfactory results.

(*d*) *Special joint sleepers.*—A modified design of cast iron rail-free, Duplex sleeper is being tried on various railways not only in track laid with cast iron sleepers but with other types also such as wood and steel. The reports so far received are promising.

(*e*) *Guard rails for level crossings.*—Experiments are still in progress.

(*f*) *Rail expansion joints.*—The East Indian Railway have made use of one of the proposed designs for rail expansion joint on a bridge where rails are rigidly attached to the floor. It is too early to comment on the trial.

(*g*) *Improvements to track on bridges.*—Trials of rubber and composition pads between rails and sleepers are still in progress. The East Indian Railway have successfully substituted steel " T " bars for wooden bridge sleepers.

(*h*) *Strengthening of bridges by means of welding.*—General conclusions on this subject have been reached. No further experiments are considered necessary.

(*i*) *Heat-treated fishplates.*—The East Indian Railway are conducting trials of heat-treated fishplates in the main line near Howrah to determine whether such fishplates will give better service and longer life compared to the untreated fishplates.

(*j*) *Staggered rail joint.*—The North Western Railway are making experiments with joints laid with a slight stagger. Reports so far received show that these joints are easier to maintain and running is satisfactory.

CHAPTER VIII.

STAFF.

100. Number of staff.—The total number of employees (permanent and temporary) on all Indian Railways and in the office of the Railway Board and other offices subordinate thereto (excluding staff employed on construction) at the end of the year 1938-39 was 700,666 as compared with 692,071* at the end of 1937-38. The total route mileage at the end of the year was 41,134. The following table shows the number of employees by communities on the 31st March 1938 and 1939. A similar statement showing details by railways is given as Appendix C of Volume II of the Report by the Railway Board on Indian Railways for 1938-39.

Date.	Europeans.	INDIANS.									GRAND TOTAL.
		Hindus.									
		Hindus other than depressed classes.	Depressed classes.	Muslims.	Anglo-Indians and domiciled Europeans.	Sikhs.	Indian Christians.	Parsis.	Other communities.	Total.	
31st March 1938* .	2,700	394,443	99,887	153,586	12,860	8,067	17,218	1,507	1,803	689,371	692,071
31st March 1939 .	**2,505**	**397,025**	**104,218**	**154,837**	**13,440**	**7,745**	**17,703**	**1,513**	**1,680**	**698,161**	**700,666**

NOTE.—These figures exclude the staff on loan from the Indian Audit and Accounts Service (Deptt.).
* Represents revised figures due to changes made by the railway administrations in the figures published last year.

101. Cost of staff.—The following statement shows the number and cost of all staff, superior and subordinate (including labourers), permanent and temporary, open line and construction, employed on Class I Railways during the years 1937-38 and 1938-39. Contractors' labour is not included.

Railway Systems.	Year.	NUMBER OF STAFF ON 31ST MARCH.							COST OF STAFF.			
		OPEN LINE.			CONSTRUCTION.							
		Gazetted Officers.	Non-gazetted employees.	TOTAL.	Gazetted Officers.	Non-gazetted employees.	TOTAL.	Gazetted Officers on loan from the Indian Audit and Accounts Service (Deptt.).	Gazetted Officers.	Non-gazetted employees.	TOTAL.	Total including staff on loan from the Indian Audit and Accounts Service (Deptt.).
1	2	3	4	5	6	7	8	9	10	11	12	13
									Rs.	Rs.	Rs.	Rs.
Assam Bengal .	1938	69	17,241	17,310	..	..	..	..	9,95,000	69,07,450	79,02,450	79,02,450
	1939	**64**	**16,550**	**16,614**	..	..	..	..	**10,49,492**	**69,61,187**	**80,10,679**	**80,10,679**
Bengal and North-Western.	1938	81*	28,399	28,480*	..	..	..	..	11,95,056	74,48,832	86,43,888	86,43,888
	1939	**72**	**28,390**	**28,462**	**2**	**84**	**86**	..	**10,86,843**	**75,26,728**	**86,13,571**	**86,13,571**
Bengal Nagpur .	1938	195	69,051	69,246	..	..	..	..	33,95,818	3,19,59,619	3,53,55,437	3,53,55,437
	1939	**194**	**69,610**	**69,804**	..	..	..	..	**32,63,201**	**3,28,83,902**	**3,61,47,103**	**3,61,47,103**
Bombay, Baroda and Central India.	1938	173	63,185*	63,358*	..	10*	10*	..	30,73,829	3,87,64,925	4,18,38,754	4,18,38,754
	1939	**173**	**62,659**	**62,832**	**1**	**5**	**6**	..	**29,69,958**	**3,84,60,260**	**4,14,30,218**	**4,14,30,218**

NOTE.—The figures of cost include the salaries and wages of staff, bonus contributions to the provident fund, gratuities, overtime allowances and all other allowances which are of the nature of extra pay and which are not granted to meet some definite expense incurred in the performance of duty, such as travelling allowance.

* Represents revised figures for 1937-38 due to changes made by the railway administrations in the figures published last year.

Railway Systems.	Year.	NUMBER OF STAFF ON 31ST MARCH.							COST OF STAFF.			
		OPEN LINE.			CONSTRUCTION.			Gazetted Officers on loan from the Indian Audit and Accounts Service (Deptt.).				
		Gazetted Officers.	Non-gazetted employees.	TOTAL.	Gazetted Officers.	Non-gazetted employees.	TOTAL.		Gazetted Officers.	Non-gazetted employees.	TOTAL.	Total including staff on loan from the Indian Audit and Accounts Service (Deptt.).
1	2	3	4	5	6	7	8	9	10	11	12	13
									Rs.	Rs.	Rs.	Rs.
Eastern Bengal	1938	116	53,219	53,335	..	..	..	2	21,06,227	2,39,35,347*	2,60,41,574*	2,61,06,573*
	1939	119	54,072	54,191	..	..	..	1	21,02,733	2,42,90,166	2,63,92,899	2,64,56,511
East Indian	1938	287	126,275*	126,562*	..	18*	18*	6	51,03,755	6,11,04,730	6,62,08,485	6,63,22,040
	1939	293	133,761	134,054	..	..	..	5	48,46,658	6,19,18,490	6,67,65,148	6,68,63,580
Great Indian Peninsula.	1938	216	79,490	79,706	..	..	..	1	39,73,199	4,34,42,402	4,74,15,601	4,74,24,538
	1939	216	77,491	77,707	..	..	..	4	38,55,737	4,32,28,259	4,70,83,996	4,71,07,659
Jodhpur	1938	27	8,186	8,213	..	..	..	1	4,24,717	27,94,047	32,18,764	32,41,233
	1939	28	8,053	8,081	1	483	484	1	3,86,799	28,33,063	32,19,862	32,54,132
Madras and Southern Mahratta.	1938	134	46,890	47,024	..	..	..	..	23,07,605	2,33,14,623	2,56,22,228	2,56,22,228
	1939	142	47,697	47,839	..	..	..	..	24,60,722	2,28,55,283	2,53,16,005	2,53,16,005
Mysore State	1938	§	§	§	§	§	§	§	§	§	§	§
	1939	32	3,731	3,763	1	19	20	..	1,71,496	14,79,148	16,50,644	16,50,644
Nizam's State	1938	75	15,844	15,919	2	183	185	..	10,24,593	61,25,320	71,49,913	71,49,913
	1939	91	16,348	16,439	7	223	230	..	11,45,357	63,74,128	75,19,485	75,19,485
North Western	1938	278*	100,017*	100,295*	..	..*	..*	4	46,53,347	5,75,65,572	6,22,18,919	6,22,64,853
	1939	280	101,244	101,524	4	285	289	4	45,68,367	5,76,25,056	6,21,93,423	6,22,57,254
Rohilkund and Kumaon.	1938	16	5,676	5,692	..	..	..	..	2,33,176	15,60,941	17,94,117	17,94,117
	1939	15	5,987	6,002	..	..	..	..	2,33,216	15,46,681	17,79,897	17,79,897
South Indian	1938	132	36,722	36,854	1	100	101	..	18,92,298	1,65,61,739	1,84,54,037	1,84,54,037
	1939	134	36,419	36,553	1	253	254	..	18,35,193	1,66,87,795	1,85,22,988	1,85,22,988
Railway Clearing Accounts Office.	1938	5	1,347	1,352	..	..	..	2	72,515	15,81,855	16,54,370	16,94,467
	1939	5	1,357	1,362	..	..	..	2	50,378	15,64,635	16,15,013	16,61,097
TOTAL	1938†	1,804*	651,542*	653,346*	3	311*	314*	16	3,04,51,135	32,30,67,402*	35,35,18,537*	35,38,14,528*
	1939	1,858	663,369	665,227	17	1,352	1,369	17	3,00,26,150	32,62,34,781	35,62,60,931	35,65,90,823
	1939†	1,826	659,638	661,464	16	1,333	1,349	17	2,98,54,654	32,47,55,633	35,46,10,287	35,49,40,179

NOTE.—The figures of cost include the salaries and wages of staff, bonus contributions to the provident fund, gratuities, overtime allowances and all other allowances which are of the nature of extra pay and which are not granted to meet some definite expense incurred in the performance of duty, such as travelling allowance.

* Represents revised figures for 1937-38 due to changes made by the railway administrations in the figures published last year.

† Excludes figures of Mysore State Railway.

§ Figures are not shown as Mysore State Railway was class II Railway in 1937-38

Distribution of cost of Gazetted Officers and Subordinate staff of the Railway Clearing Accounts Office.

Railway.	Gazetted Officers.		Non-gazetted employees.		Total.		Total including staff on loan from Indian Audit and Accounts (Departments).	
	1937-38.	1938-39.	1937-38.	1938-39.	1937-38.	1938-39.	1937-38.	1938-39.
1. North Western .	19,553	13,437	4,26,523	4,17,311	4,46,076	4,30,748	4,56,887	4,43,038
2. East Indian . .	19,553	13,437	4,26,523	4,17,311	4,46,076	4,30,748	4,56,887	4,43,038
3. Eastern Bengal .	7,332	5,039	1,59,946	1,56,491	1,67,278	1,61,530	1,71,332	1,66,140
4. Great Indian Peninsula.	14,664	10,076	3,19,892	3,12,983	3,34,556	3,23,059	3,42,665	3,32,279
5. Bombay, Baroda and Central India.	11,413	8,389	2,48,971	2,60,539	2,60,384	2,68,928	2,66,696	2,76,602
TOTAL .	72,515	50,378	15,81,855	15,64,635	16,54,370	16,15,013	16,94,467	16,61,097

A comparison of the figures for 1938-39 with those for 1937-38 (excluding Mysore State Railway) shows that the total number of staff employed on open line on 31st March 1939 increased by 8,118 as compared with that on 31st March 1938, the number of staff on loan from the Indian Audit and Accounts Service increased by one only while the number of construction staff rose by 1,035. The total cost of staff including those on loan from the Indian Audit and Accounts Service during 1938-39 increased by Rs. 11,25,651 as compared with 1937-38.

There was an increase in both the number and cost of staff on the Bengal Nagpur, Eastern Bengal, East Indian and His Exalted Highness the Nizam's State Railways and a decrease on Bengal and North-Western, Bombay, Baroda and Central India and Great Indian Peninsula Railways. There was a decrease in the number but an increase in cost on the Assam Bengal, Jodhpur and South Indian Railways. On the Madras and Southern Mahratta and Rohilkund and Kumaon Railways there was an increase in number but a decrease in cost, and on the North Western Railway there was an increase in number.

On the Eastern Bengal and East Indian Railways the increase in number and cost was mainly due to the engagement of additional temporary staff in their Engineering Departments, while the decreases on the Great Indian Peninsula Railway were due to reductions in the Engineering and Transportation Departments. On the Assam Bengal Railway the increase in the cost of staff was due to (i) a temporary additional administrative post, and (ii) increased gratuities. On the Bengal Nagpur Railway the increase in the cost of staff was due to (i) a larger track renewal programme and relaying of sleepers, remodelling, isolation and bridge repair work, (ii) payment of extra wages in workshops due to opening on Saturdays, and (iii) increased overtime allowance. On the North Western Railway the increase in the number of staff was due to (i) filling up existing vacancies, (ii) the creation of certain new posts, (iii) temporary staff engaged on breaches, and (iv) construction work. The variations under other Railways were small and call for no remarks.

102. Indianisation.—

102.1. State-managed Railways.—(a) *Superior Services.*—17 appointments were made to the Superior Railway Services both by direct recruitment and promotion. Details are given below:—

Direct Recruitment.

Department.	Vacancies filled by									
	Europeans.	Indians.								
		Hindus.		Muslims.	Anglo-Indians and domiciled Europeans.	Sikhs.	Indian Christians.	Parsis.	Other communities.	Total.
		Other than Depressed Classes.	Depressed Classes.							
Agency	..	..	..	..	..	..	..	..	..	..
Engineering	..	1	..	1	1	..	..	1	..	4
Accounts	..	1	..	..	1	..	..	..	..	2
Transportation (Traffic) and Commercial.	1	3	..	1	..	..	1	..	..	5
Transportation (Power) and Mechanical Engineering.	..	2	..	1	..	..	..	..	..	3
Stores	..	..	..	..	..	..	..	..	..	..
Other Departments	..	..	..	..	..	..	..	..	..	..
Total	1	7	..	3	2	..	1	1	..	14

Percentage { Europeans . . . 6·7
Indians . . . 93·3

The percentage of Europeans was less than 25. Two officers were to be recruited from the United Kingdom to the Indian Railway Service of Engineers and two to the Mechanical Engineering and Transportation (Power) Department but no suitable candidates were available. The vacancies were therefore carried forward.

As regards Indian recruitment the percentages were:—

50·0 Hindus.
21·5 Muslims.
14·3 Anglo-Indians and Domiciled Europeans.
7·1 Indian Christians.
7·1 Parsis.

It will be observed from the information subsequently furnished in this paragraph that the over-all direct recruitment of Muslims to Superior Railway Services on State-managed and Company-managed Railways concerned was 27·9 per cent.

Promotions.

Department.	Vacancies filled by									
	Europeans.	Indians.								
		Hindus.		Muslims.	Anglo-Indians and domiciled Europeans.	Sikhs.	Indian Christians.	Parsis.	Other communities.	Total.
		Other than Depressed Classes.	Depressed Classes.							
Agency	..	..	..	..	..	..	..	..	..	..
Engineering	..	..	..	..	..	..	..	..	..	..
Accounts	..	1	..	..	..	..	..	..	..	1
Transportation (Traffic) and Commercial.	..	..	..	..	1	..	..	..	..	1
Transportation (Power) and Mechanical Engineering.	..	..	..	..	..	..	..	..	..	..
Stores	..	..	..	..	..	..	..	..	..	..
Other Departments	..	..	..	..	..	..	..	..	..	..
Total	..	1	..	..	1	..	..	..	..	2

Of a total of two officers promoted to the Superior Services, one was a Hindu and the other, an Anglo-Indian.

(b) *Lower Gazetted Service.*—48 promotions were made to the Lower Gazetted Service in the various departments. 15 went to Europeans and 33 to Indians of whom 13 were Hindus, two Muslims, fourteen Anglo-Indians and Domiciled Europeans, one Sikh and three Indian Christians. Figures by departments were as follows:—

DEPARTMENT.	VACANCIES FILLED BY									
	EUROPEANS.	INDIANS.								
		Hindus.								
		Other than Depressed Classes.	Depressed Classes.	Muslims.	Anglo-Indians and Domiciled Europeans.	Sikhs.	Indian Christians.	Parsis.	Other communities.	TOTAL.
Agency	..	..	..	..	..	..	..	..	..	..
Engineering	3	7	..	..	5	1	..	..	..	13
Accounts	..	2	..	..	1	..	..	..	..	3
Transportation (Traffic) and Commercial.	2	2	..	..	5	..	2	..	..	9
Transportation (Power) and Mechanical Engineering.	6	..	..	2	..	..	1	..	..	3
Stores	..	..	..	..	1	..	..	..	..	1
Other Departments	4	2	..	..	2	..	..	..	..	4
TOTAL	15	13	..	2	14	1	3	..	..	33

102.2. Company-managed Railways.—The following tables give a summary of the recruitment made to the Superior Services on Company-managed Railways during the year under review. Part I relates to direct recruitment and Part II to appointments made by promotion. A detailed statement by individual railways will be found in Appendix G-I of this report.

PART I.

Statement showing the number of appointments filled by direct recruitment in the Superior Establishment on (Class I) Company-managed Railways, excluding His Exalted Highness the Nizam's State, Jodhpur and Mysore State Railways during 1938-39.

DEPARTMENT.	VACANCIES FILLED BY									
	EUROPEANS.	INDIANS.								
		Hindus.								
		Other than Depressed Classes.	Depressed Classes.	Muslims.	Anglo-Indians and Domiciled Europeans.	Sikhs.	Indian Christians.	Parsis.	Other communities.	TOTAL.
Agency	1	..	..	..	..	..	..	..	..	..
Accounts	2	..	..	..	..	..	..	..	..	..
Engineering	2	5	..	5	1	..	..	1	..	12
Transportation (Traffic) and Commercial.	1	6	..	2	1	..	..	..	..	9
Transportation (Power) and Mechanical Engineering.	..	5	..	2	1	..	..	..	..	8
Stores	..	..	..	..	..	..	..	..	..	..
Other Departments	1	..	..	..	..	..	..	..	..	..
TOTAL	7	16	..	9	3	..	..	1	..	29

Percentage . { Europeans . . . 19·4
Indians . . . . 80·6

PART II.

Statement showing the total number of vacancies in the Superior Establishment on (Class I) Company-managed Railways excluding His Exalted Highness the Nizam's State, Jodhpur and Mysore State Railways filled by promotion from Lower to the Superior Services during 1938-39.

DEPARTMENT.	VACANCIES FILLED BY									
	EUROPEANS.	INDIANS.								
		Hindus.								
		Other than Depressed Classes.	Depressed Classes.	Muslims.	Anglo-Indians and Domiciled Europeans.	Sikhs.	Indian Christians.	Parsis.	Other communities.	TOTAL.
Agency	..	..	..	..	..	..	..	..	..	..
Accounts	..	1	..	..	..	..	..	..	..	1
Engineering	1	2	..	1	1	..	..	..	..	4
Transportation (Traffic) and Commercial.	..	3	..	..	2	..	1	..	..	6
Transportation (Power) and Mechanical Engineering.	1	..	..	..	4	..	..	..	..	4
Stores	..	1	..	..	..	..	..	..	..	1
Other Departments	..	1		..	..	..	..	..	..	1
TOTAL	2	8	..	1	7	..	1	..	..	17

It will be observed from Statement Part I that during the year under review the total number of appointments made by direct recruitment to the Superior Services on Company-managed Railways was 36 of which 7 went to Europeans and 29 to Indians of whom 16 were Hindus, 9 Muslims, 3 Anglo-Indians and Domiciled Europeans and 1 Parsi. The ratio of Indian to European recruitment was 80·6 to 19·4.

The percentage of European recruitment was less than 25.

The percentage of Indian recruitment in the principal Departments was :—

	Per cent.
Engineering	85·7
Transportation (Traffic) and Commercial	90·0
Transportation (Power) and Mechanical Engineering . .	100·0

Among Indian recruits the proportionate recruitment from each community was as shown below :—

	Per cent.
Hindus	55·2
Muslims	31·0
Anglo-Indians and Domiciled Europeans	10·4
Parsis	3·4

For the over-all direct Indian recruitment to Superior Railway Services on the State and Company-managed Railways, taken together, the percentages were as follows :—

	Per cent.
Hindus	53·5
Muslims	27·9
Anglo-Indians and Domiciled Europeans	11·6
Indian Christians	2·3
Parsis	4·7

103. Review of the progress made since 1925.—The statements on the following pages will throw further light on the progress made in Indianisation and in the recruitment of the various communities both on State-managed and Company-managed Railways since 1925, as reflected in the relative strength of Europeans and Indians belonging to the various communities. Part I relates to superior staff and Part II to subordinate staff on scales of pay rising to Rs. 250 and over.

PART I.

Statement of gazetted officers on State-managed Railways and Officers of corresponding rank on Company-managed (Class I) Railways (excluding H. E. H. the Nizam's State, Jodhpur and Mysore State Railways) on the 1st April 1925, 31st March 1938 and 31st March 1939.

1st April 1925.

Name of Railway.	Europeans.	Indians. Hindus. Other than Depressed classes.	Indians. Hindus. Depressed classes.†	Indians. Muslims.	Indians. Anglo-Indians.§	Indians. Sikhs.§	Indians. Indian Christians.§	Indians. Parsis.§	Indians. Other communities.§	Indians. Total.	Total number on the Railway (columns 2 plus 11).
1	2	3	4	5	6	7	8	9	10	11	12
State-managed Railways.											
Eastern Bengal	79	31	..	3	..	..	..	..	12	46	125
East Indian	227	49	..	12	..	..	..	..	26	87	314
Great Indian Peninsula	175	18	..	5	..	..	..	..	23	46	221
North Western	192	60	..	13	..	..	..	..	28	101	293
Railway Board and Miscellaneous Offices.	59	8	..	3	..	..	..	..	14	25	84
TOTAL	732	166	..	36	..	..	..	..	103	305	1,037
Company-managed Railways.											
Assam Bengal	52	6	..	1	..	..	..	..	2	9	61
Bengal Nagpur	170	27	..	5	..	..	..	..	19	51	221
Bengal and North-Western	55	3	..	1	..	..	..	..	..	4	59
Bombay, Baroda and Central India	159	14	..	..	..	..	..	..	21	35	194
Madras and Southern Mahratta	122	15	..	1	..	..	..	..	6	22	144
Rohilkund and Kumaon	12	1	..	..	..	..	..	..	..	1	13
South Indian	93	17	..	1	..	..	..	..	3	21	114
TOTAL	663	83	..	9	..	..	..	..	51	143	806
GRAND TOTAL	1,395	249	..	45	..	..	..	..	154	448	1,843

31st March 1938.

Name of Railway.	Europeans.	Indians. Hindus. Other than Depressed classes.	Indians. Hindus. Depressed classes.	Indians. Muslims.	Indians. Anglo-Indians and domiciled Europeans.	Indians. Sikhs.	Indians. Indian Christians.	Indians. Parsis.	Indians. Other communities.	Indians. Total.	Total number on the Railway (columns 13 plus 22).
1	13	14	15	16	17	18	19	20	21	22	23
State-managed Railways.											
Eastern Bengal	45	48	..	7	14	1	1	..	..	71	116
East Indian	129	100	..	16	33	4	2	3	..	158	287
Great Indian Peninsula	125	44	..	14	19	..	9	5	..	91	216
North Western	*122	*85	..	*28	*21	*18	4	..	..	*156	*278
Railway Board and Miscellaneous Offices.	37	20	..	6	*8	2	*1	..	..	37	74
TOTAL	*458	*297	..	*71	*95	*25	*17	8	..	*513	*971
Company-managed Railways.											
Assam Bengal	34	20	..	7	6	1	..	1	..	35	69
Bengal Nagpur	102	47	..	14	25	4	1	2	..	93	195
Bengal and North-Western	*57	9	..	8	3	3	1	..	..	24	*81
Bombay, Baroda and Central India	106	*36	*..	10	4	1	5	10	1	67	173
Madras and Southern Mahratta	78	38	..	1	5	2	5	5	..	56	134
Rohilkund and Kumaon	8	3	..	2	1	1	1	..	..	8	16
South Indian	60	53	..	5	12	..	3	..	..	73	133
TOTAL	*445	*206	*..	47	56	12	16	18	1	356	*801
GRAND TOTAL	*903	*503	*..	*118	*151	*37	*33	26	1	*869	*1,772

31st March 1939.

Name of Railway.	Europeans.	Indians. Hindus. Other than Depressed classes.	Indians. Hindus. Depressed classes.	Indians. Muslims.	Indians. Anglo-Indians and domiciled Europeans.	Indians. Sikhs.	Indians. Indian Christians.	Indians. Parsis.	Indians. Other communities.	Indians. Total.	Total number on the Railway (columns 24 plus 33).
1	24	25	26	27	28	29	30	31	32	33	34
State-managed Railways.											
Eastern Bengal	42	54	..	6	15	1	1	..	..	77	119
East Indian	125	109	..	13	37	4	2	3	..	168	293
Great Indian Peninsula	119	48	..	14	18	..	11	6	..	97	216
North Western	121	87	..	32	22	18	4	..	..	163	284
Railway Board and Miscellaneous Offices.	35	20	..	5	7	2	1	..	..	35	70
TOTAL	442	318	..	70	99	25	19	9	..	540	982
Company-managed Railways.											
Assam Bengal	31	19	..	7	5	1	..	1	..	33	64
Bengal Nagpur	95	48	..	15	30	3	1	2	..	99	194
Bengal and North-Western	52	8	..	8	2	3	1	..	..	22	74
Bombay, Baroda and Central India	96	41	..	16	5	1	4	10	1	78	174
Madras and Southern Mahratta	70	46	..	3	8	2	7	6	..	72	142
Rohilkund and Kumaon	7	3	..	2	2	1	..	..	..	8	15
South Indian	56	59	..	4	12	..	4	..	..	79	135
TOTAL	407	224	..	55	64	11	17	19	1	391	798
GRAND TOTAL	849	542	..	125	163	36	36	28	1	931	1,780

Statement showing the percentages of the relative strength of Europeans and Indians of various communities.

			1925.§	1938.	1939.
Europeans		State-managed Railways	70·59	*47·17	45·01
		Company-managed Railways.	82·26	*55·56	51·00
		TOTAL	75·69	*50·96	47·70
Indians	Hindus — Other than Depressed classes.	State-managed Railways	16·01	*30·59	32·38
		Company-managed Railways.	10·30	*25·72	28·07
		TOTAL	13·51	*28·39	30·45
	Hindus — Depressed classes.	State-managed Railways	†	..	..
		Company-managed Railways.	†	*..	..
		TOTAL	†	*..	..
	Muslims	State-managed Railways	3·47	*7·31	7·13
		Company-managed Railways.	1·12	*5·87	6·89
		TOTAL	2·44	*6·66	7·02
	Anglo-Indians and domiciled Europeans.	State-managed Railways	§	*9·78	10·08
		Company-managed Railways.	§	*6·99	8·02
		TOTAL	§	*8·52	9·16
Indians—*contd.*	Sikhs	State-managed Railways	§	*2·58	2·55
		Company-managed Railways.	§	1·50	1·38
		TOTAL	§	*2·09	2·02
	Indian Christians	State-managed Railways	§	*1·75	1·93
		Company-managed Railways.	§	2·00	2·13
		TOTAL	§	*1·86	2·02
	Parsis	State-managed Railways	§	*0.82	0·92
		Company-managed Railways.	§	2·24	2·38
		TOTAL	§	*1·46	1·57
	Other communities	State-managed Railways	§9·93	..	..
		Company-managed Railways.	§6·32	0·12	0·13
		TOTAL	§8·36	0·06	0·06
	TOTAL	State-managed Railways	29·41	*52·83	54·99
		Company-managed Railways.	17·74	*44·44	49·00
		TOTAL	24·31	*49·04	52·30

* Revised figures.

† Depressed class Hindus were included in Hindus in 1925.

§ Anglo-Indians, Sikhs, Parsis and Indian Christians included in " Other communities " in 1925.

PART II.

Statement of subordinates on scales of pay rising to Rs. 250 per mensem and over on Class I Railways (excluding H. E. H. the Nizam's State, Jodhpur and Mysore State Railways), on the 1st April 1925, 31st March 1938 and 31st March 1939.

1st April 1925.

Name of Railway.	Europeans.	Indians. Hindus. Other than Depressed classes.	Indians. Hindus. ‡Depressed classes.	Indians. Muslims.	Indians. †Anglo-Indians.	Indians. †Sikhs.	Indians. †Indian Christians.	Indians. †Parsis.	Indians. †Other communities.	Indians. Total.	Total number on the Railway (columns 2 plus 11).
1	2	3	4	5	6	7	8	9	10	11	12
State-managed Railways.											
Eastern Bengal	143	106	..	5	..	..	..	..	163	274	417
East Indian	859	300	..	25	..	..	..	..	789	1,114	1,973
Great Indian Peninsula	286	125	..	29	..	..	..	..	803	957	1,243
North Western	401	328	..	123	..	..	..	..	378	829	1,230
Railway Board and miscellaneous offices.	§	§	§	§	§	§	§	§	§	§	§
TOTAL	1,689	859	..	182	..	..	..	..	2,133	3,174	4,863
Company-managed Railways.											
Assam Bengal	22	23	..	4	..	..	..	..	46	73	95
Bengal Nagpur	333	140	..	13	..	..	..	..	403	556	889
Bengal and North-Western	31	15	..	2	..	..	..	..	59	76	107
Bombay, Baroda and Central India	155	253	..	25	..	..	..	..	506	784	939
Madras and Southern Mahratta	85	31	..	1	..	..	..	..	173	205	290
Rohilkund and Kumaon	6	5	..	1	..	..	..	..	13	19	25
South Indian	63	73	..	2	..	..	..	..	158	233	296
TOTAL	695	540	..	48	..	..	..	..	1,358	1,946	2,641
GRAND TOTAL	2,384	1,399	..	230	..	..	..	..	3,491	5,120	7,504

31st March 1938.

Name of Railway.	Europeans.	Indians. Hindus. Other than Depressed classes.	Indians. Hindus. Depressed classes.	Indians. Muslims.	Indians. Anglo-Indians and domiciled Europeans.	Indians. Sikhs.	Indians. Indian Christians.	Indians. Parsis.	Indians. Other communities.	Indians. Total.	Total number on the Railway (columns 13 plus 22).
1	13	14	15	16	17	18	19	20	21	22	23
State-managed Railways.											
Eastern Bengal	50	185	..	10	143	7	3	..	3	351	401
East Indian	*305	*527	2	*61	*976	*16	*10	3	4	*1,599	1,904
Great Indian Peninsula	135	249	1	36	653	11	93	41	26	1,110	1,245
North Western	205	*389	..	230	*352	*105	24	20	9	*1,129	*1,334
Railway Board and miscellaneous offices.	1	146	..	28	16	14	6	..	..	210	211
TOTAL	*696	*1,496	3	*365	*2,140	153	*136	64	42	*4,399	*5,095
Company-managed Railways.											
Assam Bengal	13	38	1	5	46	4	3	..	2	99	112
Bengal Nagpur	77	242	..	21	443	17	14	3	1	741	818
Bengal and North-Western	18	24	..	10	59	..	..	..	1	94	112
Bombay, Baroda and Central India	*155	*326	*1	*29	*268	1	*45	*95	*22	787	*942
Madras and Southern Mahratta	51	72	..	5	162	4	7	4	..	254	305
Rohilkund and Kumaon	5	3	..	2	10	..	1	..	..	16	21
South Indian	22	80	..	8	139	..	13	..	..	240	262
TOTAL	*341	*785	*2	*80	*1,127	26	*83	*102	*26	2,231	*2,572
GRAND TOTAL	*1,037	*2,281	*5	445	3,267	179	*219	*166	*68	*6,630	*7,667

31st March 1939.

Name of Railway.	Europeans.	Indians. Hindus. Other than Depressed classes.	Indians. Hindus. Depressed classes.	Indians. Muslims.	Indians. Anglo-Indians and domiciled Europeans.	Indians. Sikhs.	Indians. Indian Christians.	Indians. Parsis.	Indians. Other communities.	Indians. Total.	Total number on the Railway (columns 24 plus 33).
1	24	25	26	27	28	29	30	31	32	33	34
State-managed Railways.											
Eastern Bengal	49	191	..	12	142	8	3	..	4	360	409
East Indian	285	539	2	59	974	15	10	3	5	1,607	1,892
Great Indian Peninsula	120	242	2	35	627	10	92	32	24	1,064	1,184
North Western	198	387	..	239	339	109	22	22	11	1,129	1,327
Railway Board and miscellaneous offices.	1	140	1	28	17	14	6	..	..	206	207
TOTAL	653	1,499	5	373	2,099	156	133	57	44	4,366	5,019
Company-managed Railways.											
Assam Bengal	13	39	1	4	44	4	3	..	..	95	108
Bengal Nagpur	67	252	..	28	463	16	19	3	..	781	848
Bengal and North-Western	15	27	1	8	66	..	..	..	1	103	118
Bombay, Baroda and Central India	140	337	1	30	267	1	40	99	27	802	942
Madras and Southern Mahratta	46	68	..	3	153	3	6	4	1	238	284
Rohilkund and Kumaon	3	3	..	2	14	..	..	..	..	19	22
South Indian	24	83	..	10	126	..	13	..	..	232	256
TOTAL	308	809	3	85	1,133	24	81	106	29	2,270	2,578
GRAND TOTAL	961	2,308	8	458	3,232	180	214	163	73	6,636	7,597

Statement showing the percentages of the relative strength of Europeans and Indians of various communities.

				1925.	1938.	1939.
Europeans			State-managed Railways	34·73	*13·66	13·01
			Company-managed Railways.	26·32	*13·26	11·95
			TOTAL	31·77	*13·53	12·65
Indians	Hindus	Other than Depressed classes.	State-managed Railways	17·67	*29·36	29·87
			Company-managed Railways.	20·44	*30·52	31·38
			TOTAL	18·64	*29·75	30·38
		Depressed classes.	State-managed Railways	‡	0·06	0·10
			Company-managed Railways.	‡	*0·07	0·12
			TOTAL	‡	*0·07	0·10
	Muslims		State-managed Railways	3·74	*7·16	7·43
			Company-managed Railways.	1·82	*3·11	3·30
			TOTAL	3·07	5·80	6·03
	Anglo-Indians and domiciled Europeans.		State-managed Railways	†	*42·00	41·82
			Company-managed Railways.	†	*43·82	43·95
			TOTAL	†	42·61	42·54
Indians—*concld*	Sikhs		State-managed Railways	†	3·00	3·11
			Company-managed Railways.	†	1·01	0·93
			TOTAL	†	2·33	2·37
	Indian Christians		State-managed Railways	†	*2·67	2·65
			Company-managed Railways.	†	*3·23	3·14
			TOTAL	†	*2·86	2·82
	Parsis		State-managed Railways	†	1·26	1·13
			Company-managed Railways.	†	*3·97	4·11
			TOTAL	†	*2·16	2·15
	Other communities		State-managed Railways	†43·86	*0·83	0·88
			Company-managed Railways.	†51·42	*1·01	1·12
			TOTAL	†46·52	*0·89	0·96
	TOTAL		State-managed Railways	65·27	*86·34	86·99
			Company-managed Railways.	73·68	*86·74	88·05
			TOTAL	68·23	*86·47	87·35

* Revised figures. † Anglo-Indians, Sikhs, Parsis and Indian Christians included in "Other communities" in 1925. ‡ Not available separately. § Not available.

103.1. It will be observed that the Indian element in the superior services has risen from 29·41 per cent. on State-managed and 17·74 per cent. on Company-managed Railways in 1925 to 54·99 per cent. on State-managed and 49·00 per cent. on Company-managed Railways in 1939. Among the Indians the percentage increase by communities in 1939 as compared with 1925 is shown below:—

—	State-managed.		Company-managed.	
	Percentages.		Percentages.	
	1925.	1939.	1925.	1939.
Hindus — other than depressed classes	16·01†	32·38	10·30†	28·07
Hindus — Depressed classes . .	†	..	†	..
Muslims	3·47	7·13	1·12	6·89
Anglo-Indians and domiciled Europeans.	*	10·08	*	8·02
Sikhs	*	2·55	*	1·38
Indian Christians	*	1·93	*	2·13
Parsis	*	0·92	*	2·38
Other Communities . . .	9·93*	..	6·32*	0·13

* Anglo-Indians, Sikhs, Parsis and Indian Christians included under "Other communities" in 1925.
† Depressed classes were included among Hindus in 1925.

103.2. Turning to the subordinate staff on scales of pay rising to Rs. 250 per mensem and over, the corresponding figures are as under:—

—	State-managed.		Company-managed.	
	Percentages.		Percentages.	
	1925.	1939.	1925.	1939.
Europeans	34·73	13·01	26·32	11·95
Indians—				
Hindus — other than depressed classes.	17·67†	29·87	20·44†	31·38
Hindus — Depressed classes . .	†	0·10	†	0·12
Muslims	3·74	7·43	1·82	3·30
Anglo-Indians and domiciled Europeans.	*	41·82	*	43·95
Sikhs	*	3·11	*	0·93
Indian Christians . . .	*	2·65	*	3·14
Parsis	*	1·13	*	4·11
Other Communities . . .	43·86*	0·88	51·42*	1·12
Total Indians .	65·27	86·99	73·68	88·05

* Anglo-Indians, Sikhs, Parsis and Indian Christians included under "Other communities" in 1925.
† Not available separately.

104. Representation on minority communities in subordinate railway services.—The figures given in Appendix G-II show, by communities, the number and percentage of subordinate staff (excluding labourers and inferior servants), recruited on State and Company-managed Railways during the year 1938-39.

The following figures show the over-all percentage on both State and Company-managed Railways during the five years ending with 1938-39 :—

	1934-35.		1935-36.		1936-37.		1937-38.		1938-39.	
Europeans . .	*		0·19		0·2		0·1		**0·1**	
Hindus . . .	65·20		57·09		54·1		55·0		**56·0**	
Muslims . . .	17·45		28·50		31·2		29·9		**29·9**	
Anglo-Indians and Domiciled Europeans . . .	12·13		8·33		8·7		9·2		**7·6**	
Sikhs . . .	1·03	4·64	1·70	5·51	2·1	5·5	2·3	5·6	**2·2**	**6·4**
Indian Christians .	2·95		3·49		3·1		2·8		**3·4**	
Parsis . . .	0·66		0·32		0·3		0·5		**0·5**	
Other communities .	0·58		0·38		0·3		0·2		**0·3**	

It will be observed from the figures given above that during the year under review direct recruitment to subordinate railway services of the different minority communities, for whom percentages have been fixed by the Government of India, was satisfactory.

105. Training of staff.—*Area Schools*—(a) *East Indian Railway School of Transportation, Chandausi.*—The activities of the School were similar to those of last year except that as a result of certain recommendations made by an Inspection Committee, two new refresher courses were introduced, one for traffic inspectors and one for senior assistant station masters. The details of the number of students, etc., who passed through the school are given in the following figures. The decrease in the number of students and the decrease in gross expenditure is mainly due to the smaller number of Assistant Station Masters attending refresher courses and fewer probationary Assistant Station Masters for training. Economies effected in the cost of Instructional Staff also operated to reduce the cost per student day.

	1937-38.	**1938-39.**
Number of students attending refresher courses	709	**627**
Number of students attending training courses	193	**169**
Number of officers attending courses .	6	**2**
Total number of students . . .	908	**798**
Total number of students days . .	36,844	**30,692**
Expenditure	Rs. 77,645	**Rs. 59,829**
Cost per student day	Rs. 2-2	**Rs. 1-15**

(b) *Walton Training School, North Western Railway, Lahore Cantonment.*—The activities of the School continued to be of great advantage to the administration in improving the general standard of efficiency. Lectures on civility and on personnel work formed part of almost every syllabus. Practical demonstrations of work at a railway station were given to students by taking them to out-stations as experience proved that such visits were of great help to students in understanding details explained to them in the school or model rooms.

* In 1934-35 Europeans were not shown separately.

The following figures detail the number of students, etc., who passed through the School, the number being greater than in any previous year. Various measures taken made it possible to reduce the cost of the school.

	1937-38.	1938-39.
Number of students attending refresher courses	520	**513**
Number of students attending special courses	7	**3**
Number of students attending for examination only	182	**132**
Number of students attending training courses	1,025	**1,225**
Number of officers attending courses .	8	**6**
Total number of students	1,742	**1,879**
Total number of students days . .	79,675	**85,748**
Expenditure	Rs. 2,57,000	**Rs. 2,31,000**
Cost per student day	Rs. 3-4	**Rs. 2-11**

106. Stimulation of interest of staff in their work.—In the report for 1937-38, reference was made to the recommendations of the Indian Railway Enquiry Committee regarding the desirability of inculcating in the staff greater interest in their work and a more active business outlook. Reports subsequently received from Railway Administrations indicated not only a ready acquiescence with the views of the Committee but also that Railways were working generally on the lines suggested by the Committee and that several Railways had adopted some or other of the following measures:—

(i) The extension of training facilities at railway training schools, and the provision of special courses of lectures designed to stimulate the interest of the staff in their work and improve their relations with the public.

(ii) Convening of staff conferences.

(iii) Formation of suggestion and invention committees.

(iv) Introduction of the *quota* system, an arrangement under which a definite *quota* of the earnings is prescribed for each station, the staff of which is encouraged to obtain it, being specially commended when an increase over the *quota* is obtained.

(v) Publication of railway magazines and bulletins.

(vi) Formation of lecture and debating societies and mutual improvement classes.

(vii) Maintenance of closer touch with the Railway Research Service in London.

(viii) Encouragement of officers and upper subordinates to become members of the Institute of Transport.

Each Railway Administration is aware of what is being done on other railways and will extend its activities in this matter, as circumstances warrant.

107. Improvements in the service conditions of the staff.—*Hours of Employment Regulations.*—These Regulations have been in force on the North Western, East Indian, Eastern Bengal, Great Indian Peninsula, Bombay, Baroda and Central India, Madras and Southern Mahratta and Bengal and North-Western Railways for some time now and the question of extending them to certain other Class I Railways was further examined by the Railway Board during the year. No final decision was, however, reached.

108. The Payment of Wages Act.—During the period under review difficulties were experienced particularly in regard to—

(i) the strict enforcement of section 5 (2) of the Act; and

(ii) recoveries from wages of the cost of certain amenities and services supplied.

To assist Railway Administrations to comply fully with the provisions of section 5 (2), in cases in which it was not possible for the Accounts or Audit Officer to pre-audit claims for payment within the prescribed period, the payment of wages from the earnings of the nearest railway station was authorised.

Representations were also received to the effect that the payment of wages within the period specified in section 5 (2) of the Act to temporary staff on the list of approved candidates was not practicable. The Government of India decided to exempt such Railways or persons nominated by them under section 5 (3) of the Act from the operation of sub-section (2) of section 5 in respect of the wages of the employees in question, subject however to their being paid before the expiry of the tenth day after the last day of the month in which the wages were earned.

To enable the staff to take full advantage of the amenities provided by Administrations, the Government of India authorised deductions being made from the wages of the staff concerned for the cost of coal, cinders, unserviceable sleepers and other timber, kerosene and other oils, safety-matches and cloth, sold to employees by Administrations from their own stocks for private use and at the employee's written request.

109. Welfare.—(i) *Assistance to employees for the education of their children.*—The salient features of the rules issued provisionally in September 1930 for the grant of assistance from railway funds to railway employees towards the education of their children were detailed in the Report for 1930-31. Under these rules, assistance was limited to over-riding maxima of Rs. 15 per mensem per child and Rs. 40 per mensem to any employee irrespective of the number of children. As a measure of further relief, the latter limit has been raised to Rs. 60 per mensem with effect from the 1st April 1939.

(ii) *Staff Benefit Fund.*—These have been constituted on various principal railways and are continuing to function. As in previous years, grants were made from these funds to provide amenities and relieve distress among non-gazetted railway employees and their families.

(iii) *Railway Sports.*—The eleventh annual Inter-Railway Athletic Tournament was held in the Irwin Amphitheatre at New Delhi on the 17th and 18th March 1939. Teams were entered by the Bombay, Baroda and Central India, Bikaner, Eastern Bengal, Great Indian Peninsula, Jodhpur, North Western, His Exalted Highness the Nizam's State and South Indian Railways and the Railway Board. The tournament was won by the North Western Railway for the eleventh year in succession, the South Indian Railway being the runners up. The Junior Railways Challenge Cup was won by the Jodhpur Railway. Two all-India and three Railway records were broken and two all-India records were equalled.

A Hockey tournament was held from the 9th to 15th March 1939, the competitors being the Bombay, Baroda and Central India, Great Indian Peninsula, Madras and Southern Mahratta, His Exalted Highness the Nizam's State and North Western Railways and the Railway Board. The North Western Railway beat the Great Indian Peninsula Railway in the final. The inter-Railway Officers' Golf tournament was won by the East Indian Railway.

110. Meeting with the All-India Railwaymen's Federation.—During the period under review the Railway Board met a deputation from the All-India Railwaymen's Federation in January 1939. By mutual agreement the only subject discussed at the meeting was the draft rules to serve as a model for adoption by railway Unions seeking recognition by railway administrations concerned.

111. Rules regulating the recognition of Unions by Railway Administrations.—At their meeting with the Railway Board in January 1938 the All-India Railwaymen's Federation had urged that the Conciliation

Officer who had recently been appointed should be permitted to deal with unrecognised Unions also. The Railway Board were unable to agree to this proposal, but suggested that the Federation should draw up for discussion terms for recognition of Unions. The Federation accordingly submitted to the Railway Board, a set of draft rules which were discussed at the half-yearly meeting of the Railway Board with the Federation in January 1939. As a result of this discussion, revised draft rules were drawn up detailing the " Conditions precedent to the recognition of a Union by a Railway Administration ". These were sent in March 1939, to the All-India Railwaymen's Federation and accepted by them. The instructions to be issued to Railways in this connection were under consideration at the close of the year under review.

CHAPTER IX.

AMENITIES FOR PASSENGERS.

112. This chapter is devoted to an account of some of the improvements in matters which make for the comfort and convenience of passengers,—particularly for those travelling in the lower classes.

In the past it has been customary to include in this chapter some account of the improvements in train services, but this year this subject has been dealt with in paragraph 50 of Chapter IV, as it should more properly be included under the heading " Transportation ".

The following paragraphs briefly explain the steps taken by individual railways in regard to the provision of improved types of carriages and clean and comfortable accommodation in trains, the arrangements for ensuring the safety of women passengers, the running of restaurant and buffet car services, and the improvement of amenities at stations such as refreshment rooms, vendors stalls, waiting halls, covered and raised platforms and the opening of additional booking offices and out-agencies. As the adequate supply of pure drinking water, particularly during the hot weather months, is a matter of great importance to lower class passengers, the steps taken in this connection are explained in some detail. It may be of interest to record that over 4,000 watermen were employed permanently on the Class I Railways, and these were supplemented by 2,500 temporary staff during the hot weather months, the cost of the latter amounting to more than Rs. 1 lakh on nine railways alone.

113. Introduction of new types of third class carriages.

The three broad gauge railways which built third class carriages during the year, namely the Bengal Nagpur, Bombay, Baroda and Central India and South Indian Railways adopted " six-compartment " designs agreeing generally with the sample third class coach approved by the Central Advisory Committee for Railways. On the metre gauge the Assam Bengal Railway introduced an improved " four-compartment " third class carriage design and the Bengal and North Western Railway built more " three-compartment " third class carriages with large latrines.

Indian wagon building firms were invited to submit designs for a third class bogie carriage of all-steel construction and the building of six experimental carriages to a design submitted by Messrs. Jessop & Co., was considered.

114. Measures taken to ensure security of women passengers in trains.

Railways devoted special attention to this subject. Progress was made with the fitting of additional alarm pulls in women's third class compartments on all Class I Railways and on the Assam Bengal and East Indian Railways this work was completed during the year. On the Assam Bengal Railway the number of women's compartments provided with inter-communicating windows was increased to 108. The fitting of internal safety catches to doors and windows of inter class women's compartments was continued throughout the year on the Bengal Nagpur Railway and completed on the East Indian Railway. Further progress was made with the provision of bars on the windows of third class women's compartments on the South Indian Railway.

Railways generally paid greater attention to the marshalling of trains with a view to positioning lower class women's compartments as close as

possible to either the guard's compartment or upper class accommodation. Special steps were also taken by some railways to introduce a more vigilant watch on the offside of women's compartments at night, to keep servants' compartments free from occupants other than *bonâ fide* servants and to ensure the employment of ice vendors of good character.

115. Provision of third class accommodation on fast through trains.—It is the general practice on most railways to ensure that the third class accommodation on fast through trains is not " crowded out " by passengers on short journeys, to the inconvenience of those travelling longer distances. Third class accommodation was provided on all trains run by the Bengal and North-Western, Bengal Nagpur, Eastern Bengal, Jodhpur, Rohilkund and Kumaon and South Indian Railways. On the Bombay, Baroda and Central India Railway the only trains excepted to 3rd class were the Frontier Mails between Bombay and Delhi. On the East Indian Railway all trains carried third class passengers with the exception of 5 Up and 6 Down Punjab Mails, which serve only the upper and intermediate classes. On the Great Indian Peninsula Railway the only exception was the " Deccan Queen " but 3rd class passengers could travel by the Poona Mail which ran at practically the same time of the day and took very little longer. On the Madras and Southern Mahratta Railway third class accommodation was provided on 36 Mail and Express trains. On the North Western Railway third class passengers were carried without restriction by all Express and fast through trains and also by Mail trains, on which, however, limitations were imposed as to distance.

116. Booking offices and out-agencies.

Assam Bengal Railway.—New booking offices were provided at Kaibalyadham, Chittagong Station, Sitakund and Sylhet at a total cost of Rs. 1,703. Two out-agencies were opened, *viz.*, Shillong South served *viâ* Sylhet Bazar and Madhabdi served *viâ* Narsinghdi.

There are 20 unattended halts of which 10 were previously stations. At three halts with night train stops contractors sell tickets while at the other halts passengers are attended to by the guards of trains. It has been decided to provide all halts with some form of shelter and a small booking office and those at which trains are booked to stop at night with two platform lamps.

Bengal and North-Western Railway.—During *melas* fifty-two temporary booking offices were opened at 11 stations for the convenience of pilgrims; of these nine were provided at Sonepore during the Kartic Purnamashi *mela.*

Bombay, Baroda and Central India Railway.—On the metre gauge Hapa Road and Sonai which were previously passenger halts between Himmatnagar and Sonasan and Raya and Mursan respectively, were converted to flag stations. In addition five passenger halts were opened,—these were as follows :—

Broad gauge—

Between Mehmadabad and Kanij.

Metre gauge—

Between Asarva and Naroda.

Between Renwal and Badhal.

Between Kanauj and Jasoda.

Between Kalol and Pansar.

Improvements were made in the booking windows at Nadiad station and an additional third class window was provided at Ujjain. An out-agency was opened at Chhibra Mau served by Gurasahaiganj station on the metre gauge.

Eastern Bengal Railway.—An out-agency was opened at Muktagacha, served *viâ* Baiganbari station for goods traffic and *viâ* Mymensingh Junction for the booking of passengers, luggage and parcels.

East Indian Railway.—A city booking office was opened at Moradabad.

A branch parcels office was opened jointly with the Bengal Nagpur and Eastern Bengal Railways at the premises of the "Ananda Bazar Patrika", Calcutta, for the despatch of newspapers. Delhi Chandni Chowk and Delhi Sadar Bazar city coaching booking offices were opened for goods traffic in small lots and a system of street collection and delivery of parcels was started by the North Western Railway.

Great Indian Peninsula Railway.—A city booking office was opened at Gwalior. Temporary booking offices were opened at important fairs. Basim out-agency was opened for the booking of parcels. Eight train halts were opened at :—

Ramgaon-Rameshwar.	Pohe.
Digod.	Virul.
Bijora.	Gate Lodge No. 518.
Bairagarh.	Kubgaon.

Madras and Southern Mahratta Railway.—Train halts were opened at Machavaram, Sitampet, Kunduru and Kambalacheruvu.

The policy of opening out-agencies at points away from the line was pursued, the following eight out-agencies handling parcels and goods traffic being added :—

Out-agencies.	Serving station.	Distance (miles).
Sirsi	Hubli	63
Gajendragad	Gadag	36
Savanur	Savanur	6
Ron	Mallapur	8½
Sudi	Do.	18
Bail Hongal	Belgaum	28
Nargund	Mallapur	17½
	Bellary	35
Kampli	Hospet	19

His Exalted Highness the Nizam's State Railway.—Temporary booking offices were opened for important *jattras* and *melas*. In addition to 11 out-agencies already in operation, one more was opened at Azamabad to serve the industrial area. Thirty 5-ton lorries were put in service in the out-agency area to improve collection and delivery facilities which was very much appreciated by traders.

North Western Railway.—City booking offices were opened at Rawalpindi, Peshawar Cantonment, Ambala city, Meerut city and Jullundur city. Luggage and parcels booking offices were opened at Zafarwal, Magneja,

Sahianwala and Kot Darya Bal stations. Eight out-agencies were opened at—

Out-agencies.	Serving station.	Distance (miles).
Jansath	Khatauli . . .	9
Shabqadar	Peshawar City .	18
Miranpur	Khatauli . . .	13
Bararkot	Havelian . . .	47
Jalalpur Jattan . . .	Gujrat . . .	10
Pishin	Yaru	6½
Talagang	Chakwal . . .	27
Joginder Nagar	Baijnath Paprola . .	14

Rohilkund and Kumaon Railway.—A city booking office was opened in Lucknow jointly with the Bengal and North-Western Railway.

South Indian Railway.—A booking office at the main Guard Gate and another near the Court-House of Trichinopoly were opened for the issue of tickets to specified stations and for the transport of passengers to and from Trichinopoly Junction: the Court-House booking office was, however, closed in January 1939. Out-agencies were opened at Karaikkudi Town, Cumbum and Chinnamanur. Booking offices were also opened temporarily at 12 stations during festivals. At certain places, bus services were also arranged between the stations and festival centres.

Seven train halts were opened on the broad gauge and fourteen on the metre gauge.

117. Waiting rooms and waiting halls.

Assam Bengal Railway.—Third class waiting halls were provided at Daulatganj, Kumira, Salda Nadi Rupahigaon and a waiting room for ladies at Nazira. Additional accommodation for ladies was provided on the island platform at Laksam. An additional waiting hall with latrine accommodation was built at Sitakund for the benefit of pilgrims attending the annual Sivachaturdashi *mela*. Improvements were made to waiting rooms at Baraiyadhala, Hajiganj and Kalidaha.

Bengal Nagpur Railway.—Upper and Intermediate class waiting rooms for ladies and gentlemen were provided at Raigarh. Waiting rooms were built for intermediate class passengers at Purulia and Bilaspur. Passenger shelters were also provided at Karaboh, Chandameta, Patansaongi Town and Samaswara passenger halts.

The third class waiting hall at Komatipalli was extended and that at Sausar was paved with patent stones. An improvement was made in the seating accommodation in the halls at 7 stations by the provision of cement benches.

Bombay, Baroda and Central India Railway.—New waiting halls were sanctioned at Ramganj Mandi, Khodiar, Kherol and Sareri. The existing waiting halls at Nabipur and Dholka were improved.

Eastern Bengal Railway.—An upper class waiting room was provided at Bongaigaon. The intermediate waiting rooms and third class waiting halls at 14 stations were either improved or added to according to requirements at a cost of Rs. 16,983.

East Indian Railway.—During the year the following additions were made:—

Intermediate class gentlemen's waiting rooms at 36 stations: one being for the combined use of I, II and Inter class passengers.

Intermediate class ladies waiting rooms at Lillooah, Nabadwipdham, Monghyr, Dakshineswar, Kiul and Dinapore.

Third class waiting hall at Muazzampur Narain.

Third class ladies waiting halls at Pakur, Sultangunge, Dhatrigram, Dankuni, Jaugram, Bansabati and Hooghly Ghat.

Great Indian Peninsula Railway.—Additional waiting halls for 3rd class passengers generally were provided at Khutwansa, Jalgaon, Ganj-Basoda and Bagra Tawa and for ladies at Victoria Terminus and Chalisgaon.

Jodhpur Railway.—An intermediate class waiting room was provided at Merta Road.

Madras and Southern Mahratta Railway.—The upper class waiting rooms on branch lines from which upper class accommodation has been withdrawn were placed at the disposal of Intermediate class passengers.

Mysore State Railway.—3rd class waiting halls and 1st and 2nd class waiting rooms were provided at Sagar station.

North Western Railway.—Upper class waiting rooms were provided at Laki Marwat and Sakrand. In the first and second class gentlemen's waiting rooms at Delhi, European style water closets were replaced by those of Indian style. Intermediate and third class waiting rooms were provided at Ludhiana, Sher Shah, Missan Kalar, Rohri, Naushaharo Feroza, Bhatinda and Narindarpura; those at Ludhiana and Rohri being for ladies travelling Intermediate class. The third class waiting halls at Maur and Alal stations were extended. A cement floor was laid in the third class waiting hall at Basal.

South Indian Railway.—Waiting shelters were provided at ten train halts. The covered way on the north side of Negapatam station was converted into a waiting hall for festival passengers.

The following statement summarises the number of waiting rooms and waiting halls provided on each Class I railway for the use of intermediate and third class passengers:—

——	A. B.	B. & N. W.	B. N.	B., B. & C. I.	E. B.	E. I.	G.I.P.	Jodhpur.	M. & S. M.	Mysore State.	N. S.	N. W.		R. & K.	S. I.
												C.	S.		
1. Total number of stations open for passenger traffic.	306	352	495	635	453	768	567	165	498	129	213	870	175	98	608
2. Number of stations at which waiting rooms or halls have been provided for intermediate class passengers:—															
(i) generally	12	5	19	1	8	148	*Nil*	1	6	*Nil*	*Nil*	17	3	*Nil*	*Nil*
(ii) for women only . . .	4	10	14	1	3	56	*Nil*	*Nil*	*Nil*	*Nil*	*Nil*	18	2	3	*Nil*
3. Number of stations at which third class waiting rooms or halls have been provided:—															
(i) generally	260	250	465	483	437	399	477	113	454	111	213	694	110	95	590
(ii) for women only . . .	131	34	69	2	326	173	15	6	11	5	2	48	12	12	13
4. Percentage of stations at which waiting rooms or halls have been provided as compared with the total number of stations open for passenger traffic:—															
(i) for intermediate class, generally .	3·92	1·42	3·84	0·16	1·76	19	*Nil*	0·61	1·20	*Nil*	*Nil*	1·95	1·71	*Nil*	*Nil*
(ii) for intermediate class, women only.	1·31	2·84	2·83	0·16	0·66	7	*Nil*	*Nil*	*Nil*	*Nil*	*Nil*	2·07	1·14	3·06	*Nil*
(iii) for third class, generally . .	85·0	71·0	93·9	76·7	96·5	52	84·1	68·5	91·2	86·0	100·0	79·8	62·9	96·9	97·0
(iv) for third class, women only .	42·8	9·66	13·9	0·31	72·0	23	2·65	3·64	2·21	3·88	1·00	5·52	6·86	12·2	2·14

C.=Commercial. S.=Strategic.

118. Covered and raised platforms.

The following statements show the present position in regard to platforms generally :—

118.1. Number of stations provided with covered platforms.

—	A. B.	B. & N. W.	B. N.	B., B. & C. I.	E. B.	E. I.	G.I.P.	Jodh-pur.	M. & S. M.	Mysore State.	N. S.	N. W. C.	N. W. S.	R. & K.	S. I.
1. Total number of stations open for passenger traffic.	306	352	495	635	453	768	567	165	498	129	213	870	175	98	608
(i) Class D (or flag) stations . .	116	21	67	124	125	135	94	62	82	13	73	235	33	6	148
(ii) Other than class D (or flag) stations.	190	331	428	511	328	633	473	103	416	116	140	635	142	92	460
2. (i) Number of stations at which there are two or more platforms.	83	31	83	110	87	393	190	8	53	5	24	226	12	9	83
(ii) Total number of platforms at such stations.	196	78	176	268	232	975	452	25	151	10	58	534	30	26	220
(iii) Total number of covered platforms at such stations.	7	*Nil*	4	176	116	228	125	4	66	3	12	144	3	10	95
(iv) Percentage of (iii) to (ii) . .	3·57	*Nil*	2·11	65·7	50·0	23·4	27·6	16·0	43·7	30·0	20·7	27·0	10·0	38·5	43.2
3. (i) Number of stations other than class D at which there is only one platform.	107	300	381	355	246	301	311	89	363	111	128	429	131	83	377
(ii) Number of such stations at which there are covered platforms.	*Nil*	*Nil*	1	5	*Nil*	59	9	*Nil*	22	1	*Nil*	8	1	*Nil*	8
(iii) Percentage of (ii) to (i) . .	*Nil*	*Nil*	0·26	1·41	*Nil*	19·6	2·89	*Nil*	6·06	0·90	*Nil*	1·86	0·76	*Nil*	2·12

C.=Commercial. S.=Strategic.

118.2. Number of stations provided with platforms above rail level.

—	A. B.	B. & N. W.	B. N.	B., B. & C. I.	E. B.	E. I.	G.I.P.	Jodh-pur.	M. & S. M.	Mysore State.	N. S.	N. W. C.	N. W. S.	R. & K.	S. I.
1. Total number of stations open for passenger traffic.	306	352	495	635	453	768	567	165	498	129	213	870	175	98	608
(i) Class D (or flag) stations . .	116	21	67	124	125	135	94	62	82	13	73	235	33	6	148
(ii) Other than class D (or flag) stations.	190	331	428	511	328	633	473	103	416	116	140	635	142	92	460
2. (i) Number of stations other than flag stations at which there are more than one platform.	83	31	76	100	82	369	161	8	53	5	11	213	12	9	83
(ii) Total number of platforms at such stations.	196	78	159	247	220	933	394	25	151	10	32	508	30	24	220
(iii) Total number of platforms at such stations above rail level.	13	64	132	233	188	605	314	18	151	7	31	385	23	20	150
(iv) Percentage of (iii) to (ii) . .	6·63	82·1	83·0	94·3	85·5	64·8	79·7	72·0	100·0	70·0	96·9	75·8	76·7	83·3	68·2
3. (i) Number of stations at which there is only one platform.	223	321	435	490	366	361	344	151	445	124	189	633	163	87	525
(ii) Number of such stations at which platforms are above rail level.	3	157	123	203	132	177	196	8	283	41	73	189	84	27	277
(iii) Percentage of (ii) to (i) . .	1·35	48·9	28·3	41·4	36·0	49·0	57·0	5·30	63·6	33·0	38·6	29·9	51·5	31·0	52·8

C.=Commercial. S.=Strategic.

119. Refreshment rooms for Hindus and Mahomedans.

The table below shows the number of stations on Class I Railways, provided with refreshment rooms for Hindus and Mahomedans on 31st March 1939, and of these the additions that were made during 1938-39.

Name of Railway.	NUMBER OF STATIONS PROVIDED WITH REFRESHMENT ROOMS FOR THE USE OF			NUMBER OF REFRESHMENT ROOMS WHICH WERE PROVIDED DURING THE YEAR.		
	Hindus and Mahomedans.	Hindus only.	Mahomedans only.	Hindus and Mahomedans.	Hindus only.	Mahomedans only.
Assam Bengal	6	6	5	2	..	..
Bengal and North-Western . .	..	10	10	..	..	..
Bengal Nagpur	17	..	6	..	1	1
Bombay, Baroda and Central India	..	10	5	..	1	1
Eastern Bengal	9	5	..	..	1	1
East Indian	14	5	4	..	..	..
Great Indian Peninsula . . .	6	1	..	..	1	1
Jodhpur	3	1	..	..	..	..
Madras and Southern Mahratta† .	..	28*	5	..	..	..
Mysore State	2	17	2	..	..	..
His Exalted Highness the Nizam's State.	10	..	..	..	..	..
North Western	22	..	..	..	..	..
Rohilkund and Kumaon . .	1	..	..	..	..	..
South Indian	28	..	5	..	..	1

* Hindu refreshment rooms, though run on Hindu lines supplying vegetarian Hindu food, are open to other communities also.
† One Indian Christian refreshment room is also run at Mormugao Harbour.

120. Vendors' Stalls in waiting halls and on platforms.

At the end of this paragraph is a statement showing the number of stations at which vendors' stalls were in existence on each railway on the 31st March 1939. The following are particulars of additions or improvements made during the year :—

Assam Bengal Railway.—The kitchen of the Hindu stall at Chaparmukh was extended and a chimney provided in the Mahomedan tea stall at Tinsukia. Portable tea tables on rubber tyred wheels were supplied to the Hindu and Mahomedan stalls at Akhaura. Hindu and Mahomedan stalls were opened at Sholashahar Junction.

Bengal and North-Western Railway.—Stalls were opened at Thana Bihpur, Mettiah, Narkatiaganj and Sitamarhi.

Bombay, Baroda and Central India Railway.—A new stall was provided at Bijainagar (metre gauge).

Eastern Bengal Railway.—Darsana, Kushtia Court, Mallickpur, Champahati, Akra, Tangla and Alipur Duar were provided with stalls and additional stalls were opened at Katihar, Dinajpur, Naihati and Ranaghat.

East Indian Railway.—Two stalls were opened at Allahabad and one each at the following stations :—

Suri.
Chheoki.
Naini.
Cawnpore Central.
Khurja.
Aligarh.
Tundla.

Madras and Southern Mahratta Railway.—A departmental stall serving light refreshments was opened at the north end of Bezwada station.

North Western Railway.—Badin was provided with a stall. Additional tea stalls were provided at Tando Adam, Nawabshah, Shikarpur and Kotri. The tea table at Kotri was replaced by a stall.

South Indian Railway.—New tea stalls were provided at Madras Beach, Arkonam, Tanjore, Dindigul, Rameswaram and Trichinopoly Fort and fruit

stalls at Saidapet, Dindigul, Palghat, Salem Junction, Trichur, Salem Market, Salem Town and Mettur Dam.

The following statement summarises the number of stations on Class I Railways, at which there were vendors' stalls :—

Railway.	Number of stations at which stalls were in service on 31st March, 1939.	Number of stalls opened during the year.
Assam Bengal	91	2
Bengal and North-Western	39	4
Bengal Nagpur	81	..
Bombay, Baroda and Central India	137	1
Eastern Bengal	84*	11
East Indian	118	9
Great Indian Peninsula	131	..
Jodhpur	19	..
Madras and Southern Mahratta	127	1
Mysore State	18	4
His Exalted Highness the Nizam's State	46	..
North Western	127	5
Rohilkund and Kumaon	13	..
South Indian	103	14

* Does not include stalls provided on three ferry services.

121. Water supply for passengers.

Assam Bengal Railway.—Large stations.—Water taps are provided on the platforms of important stations and English filters of the Berkfeld type are in use at 22 stations. At 6 important stations portable water barrows are made available.

Small stations.—Water treated with electrolytic chlorine is stored in earthenware pots placed on wooden stands. At 43 stations where watermen were not employed, station staff supplied water. Additional water supply arrangements were made at Laksam, Feni, Sonaimuri and Chandranathpur at a cost of approximately Rs. 15,000 to ensure an ample supply of drinking water both to passengers and staff.

Bengal and North-Western Railway.—Large stations.—Hydrants are provided in adequate numbers on station platforms. Watermen provided with wheeled water tanks and buckets also supplied water to passengers in trains.

Small stations.—Fresh cool drinking water is kept stored in buckets in station verandahs and supplied to passengers in trains by watermen or other staff specially deputed for the purpose. At engine watering stations hydrants are provided for supply of fresh water to passengers.

The following additional arrangements were made during the year at an approximate cost of Rs. 3,600 :—

Separate arrangements for the supply of drinking water at Darbhanga.

Provision of one Gujranwala pump at Katarnian Ghat and two at Ajodhya Ghat.

Tube wells at Muhammadpur and Jogiara.

146 watermen were engaged temporarily during the hot weather to supplement the permanent staff.

Bengal Nagpur Railway.—Large stations.—Water taps are provided on station platforms and in waiting halls. Watermen also attend passenger trains with water in drums on wheels; the water being kept cool in specially designed shelters.

Small stations.—171 drums on wheels are used by watermen for supplying water to passengers in trains. 106 additional watermen were engaged during hot weather months.

Drinking water shelters were provided at Ghatsila, Bhubaneswar and Baitarani Road and a tube well at Bir-Shibpur.

Bombay, Baroda and Central India Railway.—Hydrants are provided at suitable points on platforms and in waiting halls. Water huts are also erected for storing cool water in earthenware pots. Hindu and Mahomedan watermen distribute water to passengers in trains.

Small stations.—Watermen distribute cool drinking water stored in special huts on the platforms.

Hydrants were provided at two more stations and masonry water huts at 10 others at a total cost of about Rs. 2,000.

141 temporary watermen were employed during the hot weather.

Eastern Bengal Railway.—Watermen distribute water to passengers in trains and on platforms. In the hot weather the regular staff are assisted by employees temporarily appointed for the purpose.

An additional double water tap at Ballygunge, water tap connections to the tube well at Calcutta South, overhead covering for drinking water tank at Bogra, two water scoop tanks at Lalmanirhat and Amingaon, tube wells at Gaibanda, Lalmanirhat and Chowdhurani were the chief additional facilities provided at a cost of about Rs. 1,300.

East Indian Railway.—Large stations.—Trolleys carrying earthen *mutkas* containing cool drinking water are in service for supplying water to passengers in trains: there are also water taps and drinking water fountains.

Small stations.—Drinking water is kept stored in earthen *mutkas* embedded in sand: during hot weather months temporary watermen take the cool water in buckets and distribute it to passengers in trains. The *mutkas* are changed at fixed intervals.

678 watermen were temporarily employed.

Great Indian Peninsula Railway.—Earthen *chatties* filled with cool drinking water are kept at all stations. Watermen meet each train and distribute cool drinking water to passengers. Water cans with spouts are used for dealing out water as this is sanitary and prevents wastage.

At 22 stations hand propelled lorries were used with success for the transport of water within station limits and it is intended to introduce them at other stations.

Jodhpur Railway.—Large stations.—In addition to water taps on platforms, huts are provided for storing cool drinking water. Charitable organisations were also afforded facilities for supplying water on station platforms to passenger trains and in passenger sheds.

Small stations.—At the majority of stations, water huts with watermen in attendance, were provided for the storage of cool drinking water.

24 additional watermen were engaged during the hot weather months at a cost of Rs. 1,700.

Madras and Southern Mahratta Railway.—The standard arrangement for the supply of drinking water to passengers at all stations is the provision of one or more 5-gallon earthenware pots fitted with brass cock and a tin lid placed on stands at suitable points. Also, wherever possible, water taps are provided on platforms. Permanent watermen are employed and additional watermen are put in service during the hot weather months.

Mysore State Railway.—Large stations.—Water taps supplying filtered drinking water are installed at the following stations:—

Mysore.	Bangalore.	Davangere.
Channapatna.	Bhadravati.	Krishnaraja Sagara.

Small stations.—Watermen are employed for supply of water to passengers.

13 additional watermen were temporarily employed for the hot season.

His Exalted Highness the Nizam's State Railway.—Large stations.—Water taps are provided at all large stations and at engine watering stations. Watermen are also employed for the supply of drinking water to passengers in trains.

Small stations.—Water is kept in earthen pots for the use of passengers. During the hot weather temporary watermen are employed wherever necessary.

During the hot weather, drinking water was supplied by travelling watermen in all passenger and mixed trains and 39 watermen were temporarily employed at a cost of Rs. 1,900.

North Western Railway.—Large stations.—Earthen pots filled with cold drinking water are placed in water shelters in waiting halls and platforms from which the requirements of passengers are met. Tube wells with hand pumps are provided at certain stations. Hand barrows are in use to facilitate the supply of cool drinking water to passengers in trains. The earthen vessels used for storing water are changed at specified intervals to ensure cleanliness. Both Hindu and Mahomedan watermen are employed at large stations.

Small stations.—Passengers are served by station and travelling watermen. Water hydrants are also provided at certain important stations. Watermen have instructions to give prior attention to requests from ladies and children.

864 additional watermen were employed during the hot weather months at an approximate cost of Rs. 72,600.

Rohilkund and Kumaon Railway.—Large stations.—Hydrants and taps are provided on platforms. Watermen also supply water to passengers in trains from hand carts.

Small stations.—Watermen attend trains at all stations. 38 temporary watermen were engaged during the hot weather months at a cost of Rs. 1,000.

South Indian Railway.—Large stations.—Hydrants are provided on platforms in addition to water drums and tubs placed at suitable points. Water carriers are detailed to supply water to passengers in trains.

Small stations.—Drums provided with stop cocks filled with cool drinking water, are kept in cages on platforms for the use of passengers. Hydrants are also provided on platforms at some stations. On sections where water scarcity is felt, water tanks are run for the supply of water to passengers as well as staff.

One double tapped hydrant on the platform and one opposite the second class waiting shed were opened at Kodaikanal Road. Improvements to the water supply were made at five stations.

122. Restaurant or buffet car services.

Assam Bengal Railway.—A dining car catering in the European style was run on the express trains between Chittagong and Bhairab Bazar up to 1st October 1938 after which it was replaced by kitchen car.

Owing to poor patronage the kitchen cars running between Pandu and Tinsukia on the Up and Down Assam Mails were withdrawn from 1st October 1938 and put on to the Up and Down Chittagong-Mymensingh Express in place of the dining cars.

Bengal Nagpur Railway.—Restaurant cars catering in the European style were run on—

The Bombay Mails between Howrah and Nagpur.

The Madras Mails between Howrah and Vizianagram.

Bombay, Baroda and Central India Railway.—Restaurant cars catering in the European style were run on the following trains:—

The Frontier Mails between Bombay and Delhi.

The Sind and Delhi Mails between Ahmedabad and Ajmer.

The "Delhi" Express trains between Delhi and Ahmedabad.

Third class carriages with Indian dining compartments, separately for Hindus and Mahomedans, were run on the following trains:—

The Kathiawar Expresses between Bombay Central and Viramgam.

The "Delhi" Express trains between Bombay Central and Delhi.

The "Flying Ranee" between Bombay Central and Surat.

On the Ahmedabad Mails running through to and from Bhavnagar Para a Hindu dining compartment was run between Ahmedabad and Dhandhuka.

Eastern Bengal Railway.—Restaurant cars catering in the European style were run on:—

The Assam Mails between Calcutta and Parbatipur.

211 Up and 212 *Cum* 228 Down passenger trains between Parbatipur-Lalmanirhat.

East Indian Railway.—European style restaurant cars were run on:—

The Delhi-Kalka Mails between Moghalsarai and Delhi.

The Bombay Mails between Moghalsarai and Chheoki.

The Punjab Mails between Howrah and Lhaksar.

The "Delhi" Expresses between Howrah and Delhi.

At the suggestion of the Advisory Committee Messrs. Kellner & Co. provided selected Indian dishes in the Dining cars.

Indian restaurant cars with separate kitchens for Hindus and Mahomedans were in service on—

The Punjab Express trains between Howrah and Dinapore.

The "Upper India" Express trains between Moghalsarai and Delhi.

Great Indian Peninsula Railway.—Restaurant cars catering in the European style were run on 18 trains, including the Deccan Queen and Imperial Indian Mail which ordinarily run once a week in each direction. Indian restaurant cars were run on two trains and buffet cars on four trains.

Jodhpur Railway.—Restaurant cars catering in the European style were run on the Hyderabad (Sind) Mails between Marwar Junction and Hyderabad (Sind). Indian refreshment cars were run on—

The Hyderabad (Sind) Mails between Marwar Junction and Hyderabad (Sind).

11 Up and 12 Down trains between Hyderabad (Sind)-Hyderabad (Sind) *viâ* Mirpur Khas, Pithoro and Jhudo.

9 Up and 10 Down mixed trains between Jodhpur-Hyderabad (Sind).

29 Up and 30 Down mixed trains between Degana-Sujangar.

Indian buffet cars providing light refreshments were run between Jodhpur and Phalodi on 73 Up and 74 Down mixed trains.

Madras and Southern Mahratta Railway.—Restaurant cars catering in the European style were run on the following trains:—

Madras-Calcutta Mails between Bezwada and Samalkot.

Down Mail to Calcutta between Madras and Gudur.

Bombay-Madras Mail from Guntakal to Nandalur.

Madras-Bombay Express from Nandalur to Guntakal.
Bangalore-Guntakal Passenger from Dharmavaram to Guntakal.
Bangalore-Guntakal Mail from Guntakal to Dharmavaram.

Restaurant cars catering in the Indian style were operated on the—

Broad gauge—

The Bangalore Expresses between Madras and Bangalore.
The Bangalore Passengers between Madras and Bangalore.
The Grand Trunk Expresses between Madras and Bezwada.
The Puri Passenger between Bezwada and Waltair.

Metre gauge—

The Poona Mails between Hubli and Miraj.
The Poona Expresses between Harihar and Hubli.
The Poona Expresses between Miraj and Poona.
The Belgaum Passengers between Belgaum and Poona.
Nos. 73 and 74 Passenger trains between Guntakal and Hubli.
Nos. 13 and 14 Passenger trains between Bezwada and Guntakal.
Nos. 67 and 68 Passenger trains between Hindupur and Guntakal
* Nos. 39 and 40 Passenger trains between Hubli and Miraj.

Mysore State Railway.—Buffet cars were run on four trains.

His Exalted Highness the Nizam's State Railway.—Four bogie Indian buffet cars continued to run on—

1 Up and 2 Down Passenger between Wadi and Bezwada.
7 Up and 8 Down between Bezwada and Hyderabad.

North Western Railway.—Dining cars catering in the European style were run on—

Up Karachi Mail between Karachi and Kotri.
The Karachi Mails between Rohri and Lahore.
The Quetta Mails between Karachi and Rohri.
The Frontier Mails between Lahore and Rawalpindi.
Down Calcutta Mail between Lahore and Jullundur city.

Dining cars catering in the Indian style were run on—

The Bombay Expresses between Delhi and Lala Musa.
The Karachi Mails between Rohri and Lahore.

Rohilkund and Kumaon Railway.—Restaurant cars catering in the European style were run on the Agra-Kathgodam Express trains.

South Indian Railway.—Dining cars catering in the European style were run on—

The Indo-Ceylon Express trains between Trichinopoly Junction and Dhanushkodi.
The Blue Mountain Expresses between Erode and Mettupalaiyam during the Hill season.

Indian buffet cars providing light refreshments were run on—

The Dhanushkodi Fast Passengers between Madras (Egmore) and Dhanushkodi.
The Trivandrum Fast Passengers between Madras (Egmore) and Trivandrum.
The Shencottah Passengers between Madras (Egmore) and Shencottah.

An Indian buffet car was run as an experimental measure between Trichinopoly Junction and Tuticorin on the Up and Down Tuticorin Express from 1st October 1938 but had to be cancelled during March 1939 owing to poor patronage.

* Cancelled on and from the 1st October 1938.

The following summarises the restaurant car services during 1938-39 :—

Railway.	Number of trains on which restaurant cars were run, catering in		Number of trains on which buffet cars were run.	Remarks.
	European style.	Indian style.		
Assam Bengal	2*	..	..*	* Restaurant cars up to 1st October and thereafter kitchen cars.
Bengal Nagpur	4	..	..	
Bombay, Baroda and Central India	6	8	..	
Eastern Bengal	4	..	..	† Refreshment cars.
East Indian	8	4	..	‡ Includes up and down Deccan Queen and Imperial mail run ordinarily once a week.
Great Indian Peninsula	18‡	2	4	
Jodhpur	2	8†	2	
Madras and Southern Mahratta	6	22†(*a*)	..	
Mysore State	..	..	4	
His Exalted Highness the Nizam's State.	..	..	4	
North Western	8	4	..	
Rohilkund and Kumaon	2	..	..	
South Indian	4	..	6§	§ Excludes 2 buffet cars run for 6 months.

(*a*) Excludes two trains from which the buffet cars were cancelled from 1st October 1938.

123. Improvements carried out in existing lower class carriages.

Improvements in lower class carriages for the benefit of passengers continued to be carried out on all railways whenever possible.

On the Assam Bengal and South Indian Railways footboards were provided on a number of intermediate and third class coaches to facilitate entry and exit at low level platforms. In addition the former railway fitted 104 cushions of intermediate class carriages with imitation leather thus substituting canvas coverings which tended to become unhygienic. Furthermore in 38 inter and thirds the wooden floors were replaced by a special flooring composition of indigenous manufacture which permitted adequate cleansing and more sanitary conditions. For intermediate class passengers the Bengal Nagpur Railway fitted steps on partition walls on certain coaches for upper berth users, besides adjustable safety ropes. Amongst other improvements carried out were the fitting of many third class carriages on the Assam Bengal Railway with an improved type of seat and a general raising of the standard of illumination in many lower class units of the Bengal Nagpur and East Indian Railways. The system of illuminating ladies plaques on outside carriage panels was continued and expanded on the Assam Bengal to cover intermediate and third class compartments.

Six third class carriages were built on the Eastern Bengal Railway to an approved design whereby seating is arranged to accommodate small parties and the seats are still such as to allow of full length reclining. To enable more width per passenger to be attained, the Rohilkund and Kumaon Railway commenced internal modifications to a certain proportion of third class stock.

124. Improvements carried out in the latrines of lower class stock.— The improvement of latrines in lower class carriages continued to receive the attention of railways.

Latrine accommodation was improved and more latrines per coach were provided in a number of carriages on the Bengal Nagpur Railway. On the Bengal and North Western Railway non-latrined coaches, which passed through shops for rebuilding, and coaches fitted with old type latrines were fitted with an improved type. On the Rohilkund and Kumaon Railway a number of carriages which passed through shops for rebuilding were provided

with three latrines of an improved type instead of two as heretofore. On the Jodhpur Railway latrines of six carriages were enlarged to provide a minimum space of 12 sq. ft., whilst the work of enlarging floor area of latrines in all lower class coaches in regular service on the North Western Railway was completed. In addition 24 metre gauge coaches on the South Indian Railway were provided with latrines.

The illumination of third class latrines by electricity on the Assam Bengal Railway was practically completed, there being only 17 vehicles outstanding. Frosted glass windows were fitted as the now standard practice. On the Madras and Southern Mahratta Railway a separate light inside each latrine was provided in newly built coaches as well as in old carriages which passed through shops. The latrine windows of all-steel coaches on the North Western Railway were altered to give a more adequate ventilation.

The Assam Bengal Railway fitted brackets for holding *lotas* and soap in the standard size latrines of 178 intermediate and third class carriages and iron coat and hat hooks in all intermediate and third class latrines. Coat hangers, shelves for *lotas*, and *lota* filling taps were provided in all newly constructed and rebuilt coaches on His Exalted Highness the Nizam's State Railway.

In order to obtain more sanitary conditions an improved type of automatic flushing arrangement was provided in the intermediate and third class latrines of 513 carriages on the Assam Bengal Railway and enamelled pans together with hygienic composition floorings were introduced in intermediate class latrines for female passengers on all Mail and Express rakes on the Bengal Nagpur Railway. The six third class broad gauge carriages built on the Eastern Bengal Railway also provided improved pattern latrines with automatic flushing arrangements. On the Jodhpur Railway 19 carriages were provided with overhead water tanks for latrine flushing, whilst on His Exalted Highness the Nizam's State Railway the flushing arrangements of latrines of newly constructed coaches and rebuilt coaches were fitted with additional water exits. This modification was also carried out by the North Western Railway on many third class coaches.

For the amenity of intermediate class passengers the Assam Bengal and Eastern Bengal Railways fitted wash basins and mirrors in the toilet compartments on certain rakes. This is the commencement of a scheme for general fitment, on all new stock on all railways.

125. Arrangements to ensure cleanliness of latrines in passenger trains.

Assam Bengal Railway.—The Train Examiners at terminal stations are required to give special attention to the cleaning of bath rooms in upper class carriages and latrines in intermediate and third class carriages. At all intermediate Train Examining Stations, the Examiner on duty is expected personally to ask passengers travelling in the upper classes if they require their compartments swept out and, if so, to arrange for this to be done. The Train Examiners at all stations must arrange for a sweeper to attend each train with water, disinfectants, etc., thoroughly to clean the latrines in every carriage. At terminal stations, Train Examiners are personally responsible that the route tanks in all carriages are drained, cleaned out and refilled with fresh water. Overhead watering arrangements are available at seven important stations. District and Assistant Officers make frequent inspections.

Bengal and North-Western Railway.—Latrines in trains are cleaned and disinfected every morning at carriage examining stations under the supervision of Carriage Examiners.

Bengal Nagpur Railway.—The carriage examining staff pay special attention to this matter. To facilitate the cleaning and disinfecting of latrines, particularly in lower class carriages, small portable tanks containing disinfecting fluids are strapped to the back of sweepers detailed for this duty.

Bombay, Baroda and Central India Railway.—The tanks of carriages are filled at starting stations and replenished at large stations *en route* by special staff. On the broad gauge, notices giving the names of stations at which sweepers are available, are exhibited in lavatories of third class carriages with the request that the public requisition their services through the guard or station staff.

On the metre gauge Train Examiners ensure that latrines of carriages are properly cleaned at starting stations and also within the stoppage time at stations *en route* where carriage cleaning staff are posted.

Eastern Bengal Railway.—The latrines in all carriages are washed, cleaned and disinfected at terminal stations, and special arrangements are made for cleaning at three intermediate stations on the broad gauge and four selected stations on the metre gauge. Sweepers are also on duty at other stations to attend to through trains. Arrangements are in force for filling the tanks of intermediate and third class carriages at 11 stations.

East Indian Railway.—At all important stations latrines of carriages are thoroughly cleaned and disinfected and roof tanks are replenished. At all train examining stations, sweepers are deputed to sweep out compartments and clean out latrines on request from passengers.

Great Indian Peninsula Railway.—During the "lay off" period between trips all latrines in trains are thoroughly scrubbed, flushed, disinfected and inspected. Water tanks in third class carriages are filled at starting stations as also at specified stations *en route*. The duties of carriage and station sweepers are so arranged that the maximum number of sweepers are available to clean latrines in trains during the stopping time. At certain other stations sweepers are present on platforms with necessary equipment.

Jodhpur Railway.—Carriage tanks are filled at terminal stations and at intermediate engine changing stations. Station masters depute sweepers to attend to latrines on trains if and when desired by passengers.

Madras and Southern Mahratta Railway.—Tanks on all trains are filled with water and latrines cleaned at starting stations and at suitable stations *en route*. The experiment initiated in 1937 on the Guntakal District under which travelling sweepers were deputed to accompany trains on their run in the early hours of the morning proved very satisfactory and hence it has been extended all over the railway.

Mysore State Railway.—Water tanks are filled at selected stations. A special staff of sweepers clean the latrines at all starting stations and at certain important junctions or engine changing stations *en route* in case of long distance through trains. The guards of trains and station masters also arrange for the services of sweepers on request of passengers.

His Exalted Highness the Nizam's State Railway.—Water tanks in carriages of all trains are filled at terminal and junction stations. The latrines of passenger carriages are cleaned by sweepers at all junction stations in the early hours of the morning under the supervision of subordinate executive and supervisory staff.

North Western Railway.—The tanks of carriages are filled at starting stations and *en route*. Sweepers are deputed to attend trains on their arrival in yards or on platforms to clean the latrines in the carriages. A strict watch is kept by the supervising staff to ensure thorough cleaning.

Rohilkund and Kumaon Railway.—At all principal stations, whether starting or intermediate, the tanks of all passenger trains are filled. At all carriage examining stations sweepers clean and disinfect latrines.

South Indian Railway.—The latrines in carriages on trains are cleaned at starting and at important junction stations *en route*.

126. Overcrowding in third class carriages.

New time-tables are introduced twice a year, at the beginning of the hot and the cold weather seasons. The opportunity is then taken to increase or

decrease train services, and generally to adjust time-tables as the requirements of traffic have indicated and according to the desires expressed by the public. The draft time-tables are in some cases discussed with Local Advisory Committees. Traffic requirements are gauged by the close watch kept on train services by the station and train-checking staff and by periodical census. It may also be mentioned that the results of the census taken at the time when traffic is usually most brisk are placed before the Local Advisory Committee for their information and advice.

During the course of the census it is sometimes found that certain carriages are overfull whereas in other parts of the train there is ample spare accommodation. In such cases the inconvenience caused to some passengers is the result of parties wishing to travel together and no amount of persuasion on the part of the railway staff will make them agree to do otherwise.

127. Suggestion (or complaint) books.

In the past it was the custom on most railways to insert notices in their time-tables and, in some cases, in carriages, inviting passengers to forward suggestions or complaints to certain authorities mentioned,—which practice still continues. But more recently arrangements have also been made for the provision of special books or boxes at stations and in dining cars in which passengers may record or place such communications. Information of the steps taken by the Class I Railways was included in some detail in the Report for 1937-38; so it seems unnecessary to go into the same detail here. It may, however, be mentioned that the Assam Bengal and the North Western Railways have substituted locked boxes for the complaint books previously in use, and the North Western Railway have also provided writing pads and pencils as a further convenience.

The fact that these complaint books or boxes exist and where they are to be found is notified in the published time-tables and in notices, in the languages appropriate to the locality, displayed on special boards at the stations concerned.

It may perhaps be particularly mentioned that in addition to providing such books at 123 stations (as opposed to 57 last year), the East Indian Railway maintain them at certain important goods sheds.

On the Eastern Bengal Railway, complaint books are available with the guard of all through passenger trains, and the attention of passengers is invited to this by notices in the carriages.

CHAPTER X.

MISCELLANEOUS.

128. Accidents.—The following are the details of major accidents which occurred during the year :—

On the 15th April 1938, while an empty mela rake was being placed in a mela siding at Hardwar station on the East Indian Railway, the rear bogie was backed through the buffer stop and the palisade fencing of a pilgrim enclosure in which a number of passengers were waiting to be admitted to the platform. Three pilgrims were killed and 39 injured, of whom five subsequently died in hospital.

On the 7th June 1938, No. 5 Up Punjab Mail derailed at mile 191/13 between Muthroopore and Sankarpur block huts on the East Indian Railway, resulting in the death of two persons and injuries to 41. The approximate damage to the engine and rolling stock amounted to Rs. 90,000 and to the permanent-way Rs. 600. The accident was due to sabotage.

On the night of August 20th-21st, 1938, No. 11 Shencottah Passenger from Madras to Shencottah plunged into a breach between Ayyalur and Vadamadura on the South Indian Railway, caused by phenomenal floods due to a cloudburst, resulting in the death of 33 and injuries to 81 persons. The approximate damage to rolling stock and the permanent-way amounted to Rs. 82,000 and Rs. 530 respectively.

On the 10th September 1938, while No. 423 Down mixed passenger train was travelling between Warora and Majri on the Great Indian Peninsula Railway, a pair of wheels of one of the wagons derailed at mile 521/3 and was dragged along the ballast bending tie bars and breaking the pot sleepers. As a result six wagons and two parcel vans derailed and capsized and two passenger bogies derailed. The accident resulted in injury to two persons and damage to rolling stock amounting to Rs. 21,849.

On the 16th October 1938, No. 8 Down Punjab Express derailed when approaching Bhadaura station on the East Indian Railway, resulting in the death of one and injuries to 40 passengers, and damage to rolling stock and permanent-way amounting to Rs. 4,743 and 1,718 respectively. The accident was due to sabotage.

On the 25th November 1938, while No. 4 Up Frontier Mail was entering Morwani station on the Bombay, Baroda and Central India Railway, the engine tender derailed and the bogie carriage following derailed and capsized. Dr. Wilkinson, Chief Medical Officer of the railway, the occupant of the capsized carriage, died very shortly after the accident from heart failure, due to shock.

On the 12th January 1939, No. 9 Up Dehra Dun Express derailed between Chichaki and Hazaribagh on the East Indian Railway, resulting in the death of 21 and injuries to 77 persons. This accident was also the result of sabotage.

129. Review of Accident Statistics.—(*a*) The following table shows the number of passengers, railway servants and other persons killed and

injured in accidents on Indian Railways, exclusive of casualties in railway workshops, during the year 1938-39 as compared with the previous year :—

Cause.	Killed.		Injured.	
	1937-38.	1938-39.	1937-38	1938-39.
A.—Passengers.				
(i) In accidents to trains, rolling-stock, permanent-way, etc.	105	66	174	272
(ii) In accidents caused by movements of trains and railway vehicles exclusive of train accidents.	214	214	818	973
(iii) In accidents on railway premises in which the movement of trains, vehicles, etc., was not concerned.	1	..	14	19
Total .	320	280	1,006	1,264
B.—Railway servants.				
(i) In accidents to trains, rolling-stock, permanent-way, etc.	18	17	107	152
(ii) In accidents caused by movements of trains and railway vehicles exclusive of train accidents.	185	155	3,258	3,487
(iii) In accidents on railway premises in which the movement of trains, vehicles, etc., was not concerned.	30	27	8,773	9,860
Total .	233	199	12,138	13,499
C.—Other than passengers and railway servants.				
(i) In accidents to trains, rolling-stock, permanent-way, etc.	61	26	80	69
(ii) In accidents caused by movements of trains and railway vehicles exclusive of train accidents.	2,714	2,934	773	818
(iii) In accidents on railway premises in which the movement of trains, vehicles, etc., was not concerned.	42	35	114	159
Total .	2,817	2,995	967	1,046
GRAND TOTAL .	3,370	3,474	14,111	15,809

(*b*) Of the total of 3,474 persons killed, 2,995 or 86 per cent. were other than passengers and railway servants and of this number 2,186 were trespassers and 641 were reported to be suicides. Furthermore 62 persons were killed on railway premises otherwise than during the movement of trains, vehicles, etc.

(*c*) As compared with the previous year, persons other than passengers and railway servants killed increased by 178 principally under the heads " trespassers " (57) and " Suicides " (146), but there was a decrease of

40 and 34 in the number of fatal accidents to " Passengers " and " Railway servants " respectively.

In considering these figures it should be borne in mind that there was an increase of about 2·4 millions in passenger and mixed train miles as compared with the previous year. This is reflected in the figures given in the following statement which shows the number of passengers killed and injured in train accidents only, *i.e.*, collisions, derailments, etc., during the last five years as compared with the number carried :—

Year.	* Number of passengers carried (in millions.)	Killed.		Injured.	
		† Number.	Per million passengers carried.	† Number.	Per million passengers carried.
1934-35	502	14	0·03	63	0·13
1935-36 . . .	506	5	0·01	87	0·17
1936-37	512	11	0·02	67	0·13
1937-38	545	105	0·19	174	0·32
1938-39	**559**	**39**	**0·07**	**154**	**0·28**

* Represents total of numbers carried on all railways.

† Excludes train wrecking and attempted train wrecking.

(*d*) On class I Railways the number of railway servants killed in accidents due to the movement of trains, railway vehicles, exclusive of train accidents, decreased by 30 whereas the number injured increased by 230.

The following table analyses the main causes for these accidents :—

Cause.	Killed.		Injured.	
	1937-38.	1938-39.	1937-38.	1938-39.
(i) Misadventure or accidental . . .	126	**101**	3,052	**3,299**
(ii) Want of caution or misconduct on the part of the injured person.	54	**47**	147	**138**
(iii) Want of caution or breach of rules, etc., on the part of servants other than the person injured.	..	**2**	29	**21**
Total .	180	**150**	3,228	**3,458**

(*e*) The following statement analyses the accidents which occurred during the last two years, grouped under certain principal heads. A statement

showing the accidents in greater detail for each railway will be found in Appendix D of Volume II of this report:—

	1937-38.	1938-39.
1. Running over cattle	9,191	**8,781**
2. Derailments not involving passenger trains	3,361	**3,486**
3. Accidents due to failure of couplings and draw gear	1,966	**2,016**
4. Accidents due to failure of engines owing to faulty material, workmanship and operation arising from the working of the running staff	1,671	**1,728**
5. Accidents due to failure of engines owing to faulty material and workmanship in the Mechanical Department	429	**428**
6. Broken rails	316	**358**
7. Derailments of passenger trains	258	**274**
8. Accidents due to other rolling stock failures	274	**249**
9. Running over obstructions (other than those included under "Train wrecking", "Attempted train wrecking" and "Trains running into road traffic at level crossings")	157	**213**
10. Fires in trains or at stations or bridges	224	**187**
11. Collision involving goods trains or goods vehicles	182	**186**
12. Land-slips	45	**135**
13. Flooding of permanent-way	90	**117**
14. Trains running into road traffic at level crossings	116	**94**
15. Attempted train wrecking	73	**83**
16. Passenger trains running in the wrong direction through points but not derailed	53	**60**
17. Collisions involving passenger trains	48	**39**
18. Collisions between light engines	33	**36**
19. Accidents due to failure of axles	45	**32**
20. Accidents due to failure of tyres and wheels	13	**20**
21. Accidents due to failure of brake apparatus	22	**17**
22. Failure of bridges, tunnels, etc.	8	**9**
23. Train wrecking	16	**6**
24. Miscellaneous	319	**257**
Total	18,910	**18,811**

(*f*) The total number of accidents shows a decrease of 99 as compared with the previous year, although there was an increase in total train miles of about 4·8 millions:—

(i) "Running over cattle" still accounts for the largest number of accidents, *i.e.*, 47 per cent. of the whole; next in order are—

	Per cent.
Derailments not involving passenger trains	19
Accidents due to failure of couplings and draw gear	11
Accidents due to failure of engines owing to faulty working of the running staff	9
Accidents due to failure of engines owing to faulty material, etc.	2
Broken rails	2
Derailment of passenger trains	1
Accidents due to other rolling stock failures	1

(ii) Accidents in railway workshops accounted for the death of 10 and injuries to 8,654 railway servants, or a decrease of 1 in the former and an increase of 543 in the latter head.

130. Damage by floods, fires and other causes.—The following are brief particulars of the more serious floods and other calamities which affected railways during the year under review :—

The Assam Bengal Railway experienced four cyclones between the 20th April and 9th May, but the damage was relatively small and was confined to roofs and to kutcha and semi-pucca structures. Similarly although there were several floods on this railway during the year, the damage was on the whole comparatively small, and interruptions to traffic were mainly on certain branch lines and nowhere exceeded 7 days.

A cyclone on the night of the 9th October caused serious damage to the Bengal Nagpur Railway line between Kallikota and Rambha and to signals and telegraph wires between Kallikota and Berhampur. Travelling westwards the storm resulted in heavy rain on the Eastern Ghats as a result of which the Vansidhara river came down in high flood and breached the Parlakimedi Light Railway between Parlakimedi and Gunupur and the Bengal Nagpur Railway main line between Urlam and Chicacole Road. The cyclone raised waves 6 feet high in the Chilka Lake which beat up against the line and caused damage to the track and formation. Traffic was interrupted for periods varying from 5 to 12 days and the repairs necessary cost over half a lakh of rupees.

The Bengal and North Western Railway experienced severe flooding on its Mansi-Bhaptiahi section, portions of which were submerged for a good part of the season due to the flooding of the Kosi river; several breaches occurred, with damage to bridging. Among other sections affected were the Saharsa-Dauram Madhepura Branch, the Dharbanga-Dhang, and Dhang-Narkatiaganj sections, the Chupra and Gonda sub-divisions and the Sakri-Jaynagar and Bhatni-Aunrihar sections.

Both the broad and metre gauge sections of the Eastern Bengal Railway suffered severely from floods which caused extensive damage to bridging, embankments and other railway properties, the approximate cost of repairs being Rs. 1·31 lakhs on the broad gauge and Rs. 1·89 lakhs on the metre gauge. The country on both sides of the Kalukhali-Bhatiapara section was inundated by spill waters from the Brahmaputra and the Gorai rivers and in the vain hope of saving their crops, the local inhabitants resorted to cutting the railway embankments at 22 places in spite of police precautions until it became necessary to suspend all traffic. On the metre gauge section the most serious breach occurred at the Aie river which is crossed by a bridge of 5 spans of 100 feet and 2 spans of 40 feet girders. A portion of this bridge and the east guide bank were washed away on 17th July by the river suddenly changing its course and the breach ultimately extended to 400 feet. The temporary pontoon bridge which was constructed to effect transhipment, however, itself met with trouble on several occasions, but was used until the 29th October when the gap at the east end of the permanent bridge was closed with a pile bridge of 3 spans and through running resumed.

Damage was also caused on this railway by storms and fires, the loss in the case of the former being about Rs. 61,000 and in that of the latter about Rs. 17,000.

On the night of the 25th November a cyclone struck the North East line of the Madras and Southern Mahratta Railway accompanied by very heavy rain. Considerable damage was done to the Gudivada-Bhimavaram section to telegraph wires, signals, etc., and the main line was also breached in two places. Unfortunately a station clerk lost his life by drowning at Pallevada station.

On the South Indian Railway, a brief but phenomenally heavy shower of rain lasting about only an hour and a half, was the cause of a

disastrous accident on the 21st August. The flood, which was local, topped the bank between Ayyalur and Vadamadura and caused breaches, one of which was run into by No. 11 Shencottah Passenger train, as already mentioned.

131. Anti-malarial measures.—These were continued on railways with good results during the year under review.

Assam Bengal Railway.—Although the incidence of malaria over the whole system showed the same relation to the total cases treated as in 1937-38, the incidence in the controlled area at Pahartali was the lowest on record. The incidence at Lumding, where anti-malarial measures are in force, was also better than in the previous year.

Bengal Nagpur Railway.—Malaria control is in force at 31 stations and mosquito control (malaria) at seven stations. Control at seven other stations was carried out by private firms. Work was continued on sectors of the Orissa coastal plain and of the Satpura ranges, but is still incomplete.

Bombay, Baroda and Central India Railway.—Definite anti-malarial measures were in force at 19 stations and additional work, such as filling in borrowpits and improving drainage was carried out at 20 other stations. The planting of oleanders in kutcha drains was found to absorb waste water and sullage without the necessity of collecting it, and oleander plantation beds are now in operation all along the line north of Baroda. On the whole line there were 8,512 primary cases and 8,693 recrudescent cases against 9,182 primary and 8,197 recrudescent cases in the previous year.

Eastern Bengal Railway.—There was no change in the total number of stations where malaria is controlled by special measures, and there has been a considerable improvement at all these stations. Increases in total number of sick days attributable to malaria occurred entirely at "uncontrolled" stations.

East Indian Railway.—The anti-malarial compaign continues on the Lhaksar-Dehra Dun branch where it is intensely malarious and at three other stations. The decrease in sickness from malaria on the branch and at these three stations has fully justified the work undertaken.

Great Indian Peninsula Railway.—Anti-malarial work continues. The number of cases of malaria fell from 8,180 in 1936-37 to 5,522 in 1937-38, but rose to 6,922 in the year under review.

South Indian Railway.—Anti-malarial work on the Shencottah Ghat section has been extended for another year and the Travancore health authorities have been co-operating in the scheme.

APPENDIX A.

Railway Administrations in India alphabetically arranged in three classes according to their gross earnings showing the working agencies, ownership and route mileage open on 31st March 1939.

NOTE.—Indian Railway Systems have been classified under three classes for statistical purposes—

Class I—Railways with gross earnings of Rs. 50 lakhs and over a year.

Class II—Railways with gross earnings of less than Rs. 50 lakhs a year, but exceeding Rs. 10 lakhs a year.

Class III—Railways with gross earnings of Rs. 10 lakhs and under a year.

RAILWAY SYSTEM.		LINES COMPRISED IN THE SYSTEM.			
Name. 1	Worked by 2	Name. 3	Gauge. 4	Route Mileage. 5	Owned by 6
		CLASS I RAILWAYS.			
1. Assam Bengal . .	Assam Bengal Railway Company.	(a) Assam-Bengal .	3′ 3⅜″	1,132	State.
		(b) Chaparmukh-Silghat	3′ 3⅜″	51	Branch line Company under guarantee terms.
		(c) Katakhal-Lalabazar .	3′ 3⅜″	23	Do.
		(d) Mymensingh-Bhairab Bazar.	3′ 3⅜″	100	Branch line Company under guarantee and rebate terms.
2. Bengal and North-Western.	Bengal and North-Western Railway Company.	(a) Mashrak-Thawe	3′ 3⅜″	39	State.
		(b) Tirhoot . . .	3′ 3⅜″	811	Do.
		(c) Bengal and North-Western.	3′ 3⅜″	1,267	Company subsidized by the Government of India*.
3. Bengal Nagpur . .	Bengal Nagpur Railway Company.	(a) Anuppur-Manendragarh.	5′ 6″	54	State.
		(b) Bengal Nagpur .	5′ 6″	2,412	Do.
		(c) Purulia-Ranchi .	2′ 6″	116	Do.
		(d) Raipur-Dhamtari .	2′ 6″	57	Do.
		(e) Satpura . . .	2′ 6″	626	Do.
		(f) Mayurbhanj . .	2′ 6″	71	Branch line Company under rebate terms.
		(g) Parlakimedi Light .	2′ 6″	56	Private body.
4. Bombay, Baroda and Central India.	Bombay, Baroda and Central India Railway Company.	(a) Bombay, Baroda and Central India.	5′ 6″	1,035	State.
		(b) Bombay, Baroda and Central India.	3′ 3⅜″	1,879	Do.
		(c) Bombay, Baroda and Central India.	2′ 6″	72	Do.
		(d) Nagda-Ujjain . .	5′ 6″	35	Indian State.
		(e) Petlad-Cambay (Anand-Tarapur Section).	5′ 6″	22	Do.
		(f) Petlad-Cambay (Tarapur-Cambay Section).	5′ 6″	12	Do.
		(g) Dhrangadra . .	3′ 3⅜″	40	Do.
		(h) Palanpur State. .	3′ 3⅜″	17	Do
		(i) Piplod-Devgad-Baria	2′ 6″	10	Do.
		(j) Rajpipla State .	2′ 6″	58	Do.
		(k) Tapti-Valley . .	5′ 6″	156	Branch line Company under rebate terms.
		(l) Ahmedabad-Parantij	3′ 3⅜″	89	Do.
		(m) Champaner-Shivrajpur-Pani Light.	2′ 6″	31	Do.
		(n) Godhra-Lunavada .	2′ 6″	25	Do.
		(o) Nadiad-Kapadvanj .	2′ 6″	28	Do.

* Receives land only from Government.

Railway system.		Lines comprised in the system.			
Name.	Worked by	Name.	Gauge.	Route Mileage.	Owned by
1	2	3	4	5	6
		CLASS I RAILWAYS—*contd.*			
5. Eastern Bengal	State	(*a*) Eastern Bengal	5′ 6″	847	State.
		(*b*) Eastern Bengal	3′ 3⅜″	1,038	Do.
		(*c*) Eastern Bengal	2′ 6″	17	Do.
		(*d*) Cooch Behar State	3′ 3⅜″	33	Indian State.
		(*e*) Sara-Sirajganj	5′ 6″	54	Branch line Company under rebate terms.
		(*f*) Khulna-Bagerhat	2′ 6″	20	Do.
6. East Indian	State	(*a*) East Indian	5′ 6″	4,217	State.
		(*b*) Cawnpore-Burhwal link.*	3′ 3⅜″	66	Do.
		(*c*) Hardwar-Dehra	5′ 6″	32	Branch line Company under guarantee terms.
		(*d*) South Bihar §	5′ 6″	76	Branch line Company.
7. Great Indian Peninsula.	State	(*a*) Great Indian Peninsula.	5′ 6″	3,134	State.
		(*b*) Darwha-Pusad	2′ 6″	43	Do.
		(*c*) Bhopal-Itarsi	5′ 6″	57	Jointly owned by State and Indian State.
		(*d*) Bhopal-Ujjain	5′ 6″	113	Indian State.
		(*e*) Bina-Goona-Baran	5′ 6″	147	Do.
		(*f*) Dhond-Baramati	2′ 6″	27	Branch line Company under rebate terms.
		(*g*) Ellichpur-Yeotmal	2′ 6″	118	Do.
		(*h*) Pachora-Jamner	2′ 6″	34	Do.
		(*i*) Pulgaon-Arvi	2′ 6″	22	Do.
8. Jodhpur	Indian State	(*a*) Jodhpur-Hyderabad (British Section).	3′ 3⅜″	249	State.
		(*b*) Jodhpur	3′ 3⅜″	767	Indian State.
		(*c*) Mirpur Khas-Khadro	3′ 3⅜″	49	Company subsidized by the Government of India.†
9. Madras and Southern Mahratta.	Madras and Southern Mahratta Railway Company.	(*a*) Madras and Southern Mahratta.	5′ 6″	1,119	State.
		(*b*) Madras and Southern Mahratta.	3′ 3⅜″	1,712	Do.
		(*c*) Alnavar-Dandeli (Provincial).	3′ 3⅜″	19	Do.
		(*d*) Kolar Goldfields	5′ 6″	10	Indian State.
		(*e*) Kolhapur State	3′ 3⅜″	29	Do.
		(*f*) Sangli State	3′ 3⅜″	5	Do.
		(*g*) Tenali-Repalle	5′ 6″	22	District Board.
		(*h*) West of India Portuguese.	3′ 3⅜″	51	Foreign Country.
10. Mysore	Indian State	(*a*) Bangalore-Harihar	3′ 3⅜″	210	Indian State.
		(*b*) Hindupur (Yesvantpur-Mysore Frontier).	3′ 3⅜″	51	Do.
		(*c*) Mysore	3′ 3⅜″	338	Do.
		(*d*) Kolar District	2′ 6″	64	Do.
		(*e*) Tarikere-Narasimharajapura Tramway.	2′ 0″	27	Do.
		(*f*) Bangalore-chik Ballapur Light.	2′ 6″	39	Company guaranteed by Indian State.
11. Nizam's State	Nizam's State Railway.	(*a*) Bezwada Extension	5′ 6″	21	State.
		(*b*) Dronachellam (Dhone)-Kurnool-British Frontier.	3′ 3⅜″	36	Do.
		(*c*) Nizam's State	5′ 6″	667	Indian State.
		(*d*) Nizam's State	3′ 3⅜″	636	Do.

* Under running power agreement, the B. and N.-W. Railway Company run and haul their trains and traffic over this line.

† Received land only from Government.

§ Leased to the Government for a yearly sum of £30,000.

Railway system.		Lines comprised in the system.			
Name. 1	Worked by 2	Name. 3	Gauge. 4	Route Mileage. 5	Owned by 6
CLASS I RAILWAYS—*concld.*					
12. North Western	State	(a) North Western	5′ 6″	5,651	State.
		(b) Kalka-Simla	2′ 6″	60	Do.
		(c) Kangra-Valley	2′ 6″	88	Do.
		(d) Kohat-Thal	2′ 6″	62	Do.
		(e) Mari-Indus Kalabagh-Bannu and Laki-Pezu-Tank-Manzai.	2′ 6″	157	Do.
		(f) Zhob Valley (Fort Sandeman Khanai).	2′ 6″	174	Do.
		(g) Bahawalnagar Fort-Abbas-Kut-al-Imara	5′ 6″	151	Indian State.
		(h) Jammu and Kashmir (Indian State Section).	5′ 6″	16	Do.
		(i) Jind-Panipat (Indian State Section).	5′ 6″	26	Do.
		(j) Khanpur-Chachran	5′ 6″	22	Do.
		(k) Ludhiana-Dhuri Jakhal.	5′ 6″	79	Do.
		(l) Rajpura-Bhatinda	5′ 6″	108	Do.
		(m) Sirhind-Rupar	5′ 6″	31	Do.
		(n) Hoshiarpur-Doab (Jullundur Mukerian).	5′ 6″	45	Branch line Company under rebate terms.
		(o) Hoshiarpur-Doab (Phagwara-Rahon).	5′ 6″	46	Do.
		(p) Mandra-Bhaun	5′ 6″	47	Do.
		(q) Sialkot Narowal	5′ 6″	39	Do.
		(r) Jacobabad-Kashmor.	2′ 6″	76	Do.
		(s) Larkana-Jacobabad	2′ 6″	53	Do.
13. Rohilkund and Kumaon.	Rohilkund and Kumaon Railway Company.	(a) Lucknow-Bareilly	3′ 3⅜″	311	State.
		(b) Rohilkund and Kumaon.	3′ 3⅜″	259	Company subsidized by the Government of India. ‡
14. South Indian	South Indian Railway Company.	(a) South Indian	5′ 6″	599	State.
		(b) South Indian	3′ 3⅜″	1,506	Do.
		(c) Nilgiri	3′ 3⅜″	29	Do.
		(d) Travancore (British Section including Shencottah-Quilon Section).	3′ 3⅜″	108	Do.
		(e) Morappur-Hosur	2′ 6″	73	Do.
		(f) Tirupattur-Krishnagiri.	2′ 6″	26	Do.
		(g) Shoranur-Cochin	5′ 6″	65	Indian State.
		(h) Travancore (Indian State Section).	3′ 3⅜″	40	Do.
		(i) Podanur-Pollachi	3′ 3⅜″	25	District Board.
		(j) Tinnevelly-Tiruchendur.	3′ 3⅜″	38	Do.
		(k) Peralam-Karaikkal	3′ 3⅜″	15	Foreign Country.
		(l) Pondicherry	3′ 3⅜″	8	Do.
CLASS II RAILWAYS.					
1. Barsi Light	Barsi Light Railway Company.	Barsi Light	2′ 6″	203	Company subsidized by the Government of India and Indian State.*
2. Bengal Dooars	Bengal-Dooars Railway Company.	(a) Bengal Dooars	3′ 3⅜″	40	§ Company subsidized by the Govt. and by District Board.
		(b) Bengal Dooars Extensions.	3′ 3⅜″	121	Company subsidized by the Government of India.†
3. Bhavnagar State	Indian State	Bhavnagar State	3′ 3⅜″	307	Indian State.
4. Bikaner State	Do.	Bikaner State	3′ 3⅜″	852	Do.

* Receives land only from Government and Indian State.

† Receives land only from Government.

‡ Receives land only from Government. The guarantee of interest and subsidy ceased from 1st January 1885 and 31st December 1894 respectively.

§ Land for the original line is provided by the Government free of cost.

Railway system.		Lines comprised in the system.			
Name. 1	Worked by 2	Name. 3	Gauge. 4	Route Mileage. 5	Owned by 6
CLASS II RAILWAYS—*concld.*					
5. Darjeeling Himalayan	Darjeeling Himalayan Railway Company.	(a) Darjeeling Himalayan.	2′ 0″	51	Company subsidized by Government.
		(b) Darjeeling Himalayan Extensions.	2′ 0″	95	Branch line Company under rebate terms.
6. Dibru-Sadiya	Assam Railways and Trading Company.	(a) Dibru-Sadiya	3′ 3⅜″	86	Company subsidized by Government.‡
		(b) Ledo and Tikak-Margherita Colliery.	3′ 3⅜″	5	Unassisted Company.
7. Gaekwar's Baroda State.	Indian State	(a) Gaekwar's Baroda State	3′ 3⅜″	255	Indian State.
		(b) Khijadiya Dhari	3′ 3⅜″	37	Do.
		(c) Prachi Road Kodinar	3′ 3⅜″	16	Do.
		(d) Bodeli Chhota Udaipur.	2′ 6″	23	Do.
		(e) Gaekwar's Baroda State.	2′ 6″	333	Do.
8. Gondal	Do.	(a) Gondal	3′ 3⅜″	119	Do.
		(b) Jetalsar-Rajkot	3′ 3⅜″	46	Do.
		(c) Porbandar State	3′ 3⅜″	41	Do.
9. Jaipur State	Do.	Jaipur State	3′ 3⅜″	180	Do.
10. Jamnagar and Dwarka	Jamnagar and Dwarka Railway Company.	(a) Jamnagar	3′ 3⅜″	60	Do.
		(b) Okhamandal	3′ 3⅜″	37	Do.
		(c) Jamnagar-Dwarka	3′ 3⅜″	75	Branch line Company under guarantee and rebate terms.*
11. Junagad State	Indian State	Junagad State	3′ 3⅜″	229	Indian State.
12. Morvi	Do.	Morvi	3′ 3⅜″	132	Do.
13. Shahdara (Delhi) Saharanpur Light.	Shahdara (Delhi) Saharanpur Light Railway Company.	Shahdara (Delhi) Saharanpur Light.	2′ 6″	93	Company subsidized by Government.†
CLASS III RAILWAYS.					
1. Ahmadpur-Katwa	Ahmadpur-Katwa Railway Company.	Ahmadpur-Katwa	2′ 6″	32	Branch line Company under guarantee terms.
2. Arrah-Sasaram Light	Arrah-Sasaram Light Railway Company.	Arrah-Sasaram Light	2′ 6″	65	Company subsidized by District Board.
3. Bankura-Damoodar River.	Bankura-Damoodar River Railway Company.	Bankura-Damoodar River.	2′ 6″	60	Branch line Company under guarantee terms.
4. Baraset-Basirhat Light.	Baraset-Basirhat Railway Company.	Baraset-Basirhat Light	2′ 6″	52	Company subsidized by District Board.
5. Bengal Provincial	Bengal Provincial Railway Company.	(a) Bengal Provincial	2′ 6″	33	Unassisted Company.
		(b) Dasghara-Jamalpurgunj.	2′ 6″	8	Branch line Company under guarantee terms.
6. Bukhtiarpur-Bihar Light.	Bukhtiarpur-Bihar Light Railway Company.	Bukhtiarpur-Bihar Light	2′ 6″	33	Company subsidized by District Board.
7. Burdwan-Katwa	Burdwan-Katwa Railway Company.	Burdwan-Katwa	2′ 6″	33	Branch line Company under guarantee terms.
8. Cutch State	Indian State	Cutch State	2′ 6″	72	Indian State.
9. Dehri-Rohtas Light	Dehri-Rohtas Light Railway Company.	Dehri-Rohtas Light	2′ 6″	26	Company subsidized by District Board.
10. Dholpur State	Indian State	Dholpur State	2′ 6″	56	Indian State.

* Financed on rebate terms given by the Jamnagar Durbar.
† Receives only land from Government.
‡ Subsidy from Assam Government ceased with effect from 1920-21; receives land only from Government.

RAILWAY SYSTEM.		LINES COMPRISED IN THE SYSTEM.			
Name. 1	Worked by 2	Name. 3	Gauge. 4	Route Mileage. 5	Owned by 6
		CLASS III RAILWAYS--*concld.*			
11. Futwah-Islampur	Futwah-Islampur Light Railway Company.	Futwah-Islampur	2′ 6″	27	Branch line Company under guarantee terms.
12. Gwalior Light	Indian State	Gwalior Light	2′ 0″	295	Indian State.
13. Howrah-Amta Light	Howrah-Amta Light Railway Company.	Howrah-Amta Light	2′ 0″	44	Company subsidized by District Board.
14. Howrah-Sheakhala Light.	Howrah-Sheakhala Light Railway Company.	Howrah-Sheakhala Light	2′ 0″	20	Do.
15. Jagadhri Light	Jagadhri Light Railway Company.	Jagadhri Light	2′ 0″	3	Unassisted Company.
16. Jorhat	River Steam Navigation Company and India General Navigation and Railway Company.	Jorhat	2′ 0″	32	State.
17. Kalighat-Falta	Kalighat-Falta Railway Company.	Kalighat-Falta	2′ 6″	26	Branch line Company under guarantee terms.
18. Kulasekarapatnam Light.	East India Distilleries and Sugar Factories.	Kulasekarapatnam Light	2′ 0″	27	Unassisted Company.
19. Matheran Light	Matheran Steam Tramway Company.	Matheran Light	2′ 0″	13	Company subsidized by the Government of India. *
20. Tezpore-Balipara Light.	Tezpore-Balipara Steam Tramway Company.	Tezpore-Balipara Light	2′ 6″	20	Company subsidized by District Board.
21. Trivellore Light	T. Namberumal Chetty and Sons.	Trivellore Light	2′ 0″	2	Unassisted Company.
22. Udaipur-Chitorgarh	Indian State	Udaipur-Chitorgarh	3′ 3⅜″	146	Indian State.

* Receives land and rebate from Government.

APPENDIX B.

Relations of the Government to Railways in India.

(Reprinted from the Report for 1914-15 and brought up to date.)

Diversity of Relations between the State and Railways.—One of the special features of the Indian Railway system is the diversity of conditions that prevails in the relation of the State to the various lines in respect of ownership and control. Of the important lines situated in British India or in which the Government of India is interested, four [the North-Western,* Eastern Bengal, East Indian (with which has been amalgamated the Oudh and Rohilkhand Railway from the 1st July 1925) and Great Indian Peninsula Railways] are owned and worked by the State; five (the Bombay, Baroda and Central India, Madras and Southern Mahratta, Assam Bengal, Bengal Nagpur and South India) are owned by the State but worked on its behalf by companies enjoying a guarantee of interest from the Government; two important lines (the Bengal and North-Western, and Rohilkund and Kumaon) and many of less importance are the property of private companies, some being worked by the owning companies and some by the State or by the companies that work State-owned systems; several minor lines are the property of District Boards or enjoy a guarantee of interest granted by such Boards.

The diversity of conditions is in certain respects less important than might at first appear for the following reasons:—

The Government of India exercises under the Indian Railways Act, 1890, in respect of all Railways in British India (and also, by virtue of arrangements with Indian States, in respect of certain railways passing through such States), certain general powers. Thus a railway may not be opened until a Government Inspector has certified that it has been constructed so as to comply with requirements laid down by the Government and can be used for the public carriage of passengers without danger to them. The Government of India can also, in the interest of the safety of passengers, require a railway to be closed, or the use of particular rolling-stock to be discontinued, or may prescribe conditions for the use of the railway or the rolling-stock. They can appoint a Railway Commission to investigate complaints on certain matters such as the withholding of reasonable traffic facilities or the grant of undue preference.

In addition, the Government of India (or in some cases Local Governments) exercise under the provisions of contracts detailed control over the management of all Railways in British India greatly exceeding that which is secured by the Indian Railways Act. They also have a certain financial interest in all companies in British India, and a preponderating interest in most of the railways which are of the first importance.

History of Relations of the Government and Companies.—The main causes which have led to the present diversity of conditions in regard to the agency by which railways are managed, and the relations of the Government with the various classes of companies now in existence, are summarised in the following paragraphs:—

The first proposals for the construction of railways in India were submitted in 1844 to the East India Company in England by Mr. R. M. Stephenson, afterwards Chief Engineer of the East Indian Railways, and others; they included the construction of lines by railway companies to be incorporated for the purpose and the guarantee by the East India Company of a specified return. A contract for the construction by the East Indian Railway Company of an experimental line of 100 miles from Calcutta towards Mirzapore or Rajmehal at an estimated cost of 1,000,000*l*. was made in 1849, and a return of 5 per cent. was guaranteed by the East India Company on the Capital; and a similar contract was made in the same year with the Great Indian Peninsula Railway Company for a line from Bombay to Kalyan at an estimated cost of 500,000*l*. But the policy of entrusting generally the construction of Indian railways to guaranteed companies was not adopted until 1854 on the recommendation of Lord Dalhousie, who, in a minute, dated 20th April 1853, explained his reasons for preferring the agency of companies, under the supervision and control of the Government, to the construction of lines on behalf of the Government by its own officers. He held that the State Engineer offices would make railways as well, and possibly as cheaply, and as expeditiously as companies; but that the withdrawal from other duties of the large number

* Includes the Delhi, Ambala, Kalka and Southern Punjab Railways which were purchased by the Secretary of State on 31st March 1926 and 1st January 1930 respectively.

of officers required would be detrimental to the public interest, that the conduct of commercial undertakings did not fall within the proper functions of any Government and least of all within the functions of the Government of India, since the dependence of the population on the Government was, in India, one of the greatest drawbacks to the advance of the country, and that the country would therefore benefit by the introduction of English energy and English capital for railway purposes, with the possibility that such energy and capital would in due course be encouraged to assist in the development of India in other directions.

Old Guaranteed Railways.—The policy supported by Lord Dalhousie was adopted, between 1854 and 1860. Contracts for the construction of Railways in India were made by the East India Company, or (after 1858) by the Secretary of State for India with the East Indian, Great Indian Peninsula, Madras, Bombay, Baroda and Central India, Sind (afterwards, the Sind, Punjab and Delhi), Eastern Bengal, Great Southern of India (afterwards, when amalgamated with the Carnatic Railway Company —see below—the South Indian) and Calcutta and South-Eastern Railway Companies. Under these contracts the railway companies undertook to construct and manage specified lines, while the East India Company (or the Secretary of State for India) agreed to provide land and guaranteed interest on the capital, the rate fixed being in various cases 5, $4\frac{3}{4}$ and $4\frac{1}{2}$ per cent. according to the market rates prevailing when the various contracts were made. Half of any surplus profits earned was to be used towards repaying to the Government any sums by which it had been called upon to supplement the net earnings of any previous period in order to make good the guarantee of interest; and the remainder was to belong to the shareholders. In practically all matters of importance except the choice of staff, the companies were placed by the contracts under the supervision and control of the Government which had power to decide on the standard and details of construction; the rolling-stock to be provided, the number, time and speed of trains; the rates and fares to be charged; the expenditure to be incurred; the standard of maintenance; and the form of accounts. The railways were to be held by the companies on leases terminating at the end of 99 years, and on such termination the fair value of their rolling-stock, plant and machinery was to be paid to them. But provision was also made to enable the Government to purchase the lines after 25 or 50 years on terms calculated to be the equivalent of the companies interest therein and also to enable the companies to surrender their lines to the Government and to receive in return their capital at par.

Early Attempts to Secure Funds for Railway Construction without a Guarantee.—An attempt to secure the construction of railways in India, on terms more favourable to the Government than those of the contracts with the original guaranteed companies, was first made in 1862, when a subsidy, but not a guarantee, was granted to the Indian Branch Railway Company which proposed to make feeders to the trunk lines in Northern India, and did actually make one such line. Similar assistance was granted later to the Indian Tramway Company, which made a short line in Madras. In 1864, the terms granted to the two companies mentioned were taken as a standard for general adoption with a view to the encouragement of similar companies. The chief provisions were that the Government, besides giving the necessary land free of costs, would grant an annual subsidy for 20 years at a rate not exceeding £100 per mile of line with an addition in respect of large bridges costing more than £10,000. These terms failed to attract capital, and the two unguaranteed companies which had begun work found themselves after a few years unable to proceed without further assistance from the Government. Consequently, in 1867, a contract was entered into with the Indian Branch Railway Company (which soon after changed its name to the "Oudh and Rohilkhand Railway Company") by which the company was guaranteed interest at 5 per cent. per annum on the cost of certain lines to be carried out by it, on conditions similar to those laid down in the contracts of the period 1854—1860. Similarly, the Indian Tramway Company, after having been given in 1868 a guarantee of 3 per cent. per annum, went into liquidation in 1870, and became absorbed in a new company called the Carnatic Railway Company (afterwards amalgamated with the Great Southern of India Railway Company to form the South Indian Railway Company), with which the Secretary of State entered into a contract guaranteeing interest on its capital at 5 per cent. per annum. In 1869, Sir John Lawrence summed up the result of the experiment of the construction of railways by unguaranteed companies as follows:—"The Government of India has for several years been striving to induce capitalists to undertake the construction of railways in India at their own risk, and on their responsibility with a minimum of Government interference. But the attempt has entirely failed, and it has become obvious that no capital can be obtained for such undertakings otherwise than under a guarantee of interest fully equal to that which the Government would have to pay if it borrowed directly on its own account."

The attempt to encourage unguaranteed companies having thus been unsuccessful, it became necessary to decide whether the old practice of relying on guaranteed companies, of the type that had provided capital for, and had constructed, the first

railways in India, should be continued. The Government of India expressed their objections to this course. They doubted whether their power of control over such companies secured the greatest possible economy in construction. They also disliked the arrangements under which they guaranteed the interest on the capital of companies, and thus became responsible for loss on working while having only a comparatively remote prospect of profiting by the result of successful working. Two important changes were consequently made in the practice that had been followed since the beginning of railway construction in India:—

1. Arrangements were made with some of the most important of the guaranteed companies that, in lieu of the provision that half of any surplus profits was to be applied in repayment of sums advanced by the Government under the guarantee of interest, half of the surplus profits for each half-year should be the property of the Government. In consideration of this modification, the Government relinquished, in the case of three companies, the Great Indian Peninsula, the Bombay, Baroda and Central India and the Madras, its right to purchase the lines at the end of the first 25 years from the dates of the respective contracts.
2. It was decided by the Secretary of State that the time had arrived when in both raising and expending such additional capital as might be required for new lines in India, the Government should secure to itself the full benefit of its own credit and of the cheaper methods which it was expected that it would be able to use. Accordingly, for several years after 1869, the capital expenditure on railway was chiefly incurred direct by the State and no fresh contracts with guaranteed companies were made except for small extensions. Among the lines constructed or begun by State agency and from State capital between 1869 and 1880 were the Indus Valley, Punjab Northern, Rajputana-Malwa, Northern Bengal, Rangoon and Irrawady Valley* and Tirhoot.

Progress in the Construction of Railways.—By the end of 1879, in about 25 years from the introduction of railways in India, 6,128 miles of railway had been constructed by companies which had expended, approximately, £97,872,000 (these figures include the Calcutta and South-Eastern and Nalhati Railways which were constructed by companies but were purchased by the Government in 1868 and 1872, respectively). By the same date 2,175 miles of railway had been constructed by the Government at a cost of £23,695,226.

Introduction of Modified Guarantee Terms.—In 1880, the necessity for great and rapid extension of the railway system was urged by the Famine Commissioners, appointed after the great famine of 1878, who estimated that at least, 5,000 miles were still necessary for the protection of the country from famine. It was held by the Government of the time that a limit was necessary on the capital borrowed annually; and it was clear that the limit fixed was not high enough to allow of such progress in railway construction as was desirable. With reference to this difficulty the Famine Commissioner remarked: "that there would be manifest advantages in giving free scope to the extension of railways by private enterprise if it were possible; and, though the original form of guarantee has been condemned, it may not be impossible to find some substitute which shall be free from its defects, and may secure the investment of capital in these undertakings without involving the Government in financial or other liabilities of an objectionable nature."

Action in the direction suggested by the Commission was taken by the formation of three companies without a guarantee (the Bengal Central in 1881 and the Bengal and North-Western and Rohilkund and Kumaon in 1882), and three new guaranteed companies (Southern Mahratta in 1882, the Indian Midland in 1885, and the Bengal Nagpur in 1887). The Bengal and North-Western and the Rohilkund and Kumaon Railway Companies are referred to more fully, in a later paragraph. The Bengal Central Railway Company's operations were not successful at the outset, and a revised contract was entered into with the company, with effect from the 1st July 1885, under which the Secretary of State guaranteed interest at 3½ per cent. on the company's capital the balance of net earnings remaining after payment of interest on advances by the Secretary of State and debenture capital (but not the share capital) being divided between the Secretary of State and the company in the proportions of three-quarters to the former and one-quarter to the latter. The new contract gave the Secretary of State the right to take possession of the line on the 30th June 1905, or subsequently at intervals of 10 years, on repaying the company's capital at par. The rate of interest guaranteed to the Southern Mahratta Railway Company was also 3½ per cent.; in this case the balance of net earnings remaining after payment of interest on advances by the Secretary of State (but not on share or debenture capital) was divisible in the same way as in the case of the Bengal Central Railway Company. The guarantee to the Indian Midland and

* Forms part of the Burma Railways which have been transferred to the Government of Burma on 1st April 1937.

Bengal Nagpur Railway Companies was 4 per cent.; and the Secretary of State was entitled to three-quarters of the surplus profits in excess of all interest charges. The lines constructed by the three companies last mentioned were declared to be the property of the Secretary of State, who had the right to determine the contracts at the end of approximately 25 years after their respective dates, or at subsequent intervals of 10 years, on repaying at par the capital provided by the companies.

The Assam Bengal Railway Company was formed on similar lines in 1892, except that any surplus profits were to be divided between the Secretary of State and the company in proportion to the capital provided by each. The rate of guarantee in this case was $3\frac{1}{2}$ per cent. for the first six years and thereafter 3 per cent.

The terms of guarantee given to the companies formed since 1880 have thus been much more favourable to the Government than in the case of those formed before 1869.

Termination of Contracts of the Old Guaranteed Companies.—In dealing with the guaranteed companies formed before 1869 and with those formed in 1881 and subsequently, it has been the practice (except in the cases mentioned above, when the purchase of some of the old guaranteed lines was postponed in order to secure to the Government a share in surplus profits) to use in some way or other at the earliest possible date the right reserved by the Government of terminating the contracts of the various companies. The method of making use of this right has differed in different cases. The Eastern Bengal, the Oudh and Rohilkhand, the Sind-Punjab and Delhi and the Southern Punjab lines were purchased and transferred to State management, the last two now forming part of the North Western Railway. Similarly, the Bengal Central line was purchased and made part of the Eastern Bengal Railway. The Madras and the Indian Midland lines were acquired but left, after acquisition, under the management of companies working other lines with which it was advantageous to amalgamate them. In the cases of South Indian, Bombay, Baroda and Central India, Southern Mahratta, and Bengal Nagpur, the course adopted has been to arrange for the continuance of management by the original company (or by a new company closely related to the old one), but to secure more favourable financial conditions for the State by one or more of the following methods:—reduction of the amount of capital retained by the companies in the undertakings, reduction of the rate of interest guaranteed by the State on such capital and modification in favour of the Government of the clauses relating to the division of surplus profits. This method was adopted also in regard to the East Indian and the Great Indian Peninsula Railways, but the contracts under which they were being worked having terminated on the 31st December 1924 and the 30th June 1925 respectively, the management of these lines has been taken over by the State from those dates. Similarly the management of the Burma Railways was taken over by the State on the termination of the contract with the Burma Railways Company on the 31st December 1928. From 1st April 1937 this railway has passed to the control of the Government of Burma.

Arrangements between the Government and Companies at present.—The relations between the Government and the guaranteed companies now working railways may be summarised as follows:—

The lines that they work are the property of the State.

The greater part of the capital is the property of the Government, either through having been originally supplied by it or through the acquisition by the Government of the greater part of the companies interest on the termination of old contracts.

When funds are required for further capital expenditure, the Government has the option either of providing them or of calling on the company to provide them. Both the Government and the company usually receive interest at a fixed rate on their capital and surplus profits are divided between the Government and the company in the various proportions provided for by the contracts. The company's share is in most cases only a small proportion of the total amount.

All the contracts are terminable at the option of the Secretary of State, at specified dates; and on termination the company's capital is repayable at par.

The administrative control exercised by the Government over the companies is as follows:—

The company is bound to keep the line in good repair, in good working condition, and fully supplied with rolling-stock, plant, and machinery; to keep the rolling-stock in good repair and in good working condition; and to maintain a sufficient staff for the purposes of the line;—all to the satisfaction of the Secretaary of State.

The Secretary of State may require the company to carry out any alteration or improvement in the line, or in the working that he may think necessary for the safety of the public or for the effectual working of the line.

The Secretary of State may require the company to enter into agreements, on reasonable terms and conditions, with the administrations of adjoining railways for the exercise of running powers, for the supply to one another of surplus rolling-stock, for the interchange of traffic and rolling-stock and the settlement of through rates, and for additions and alterations to, or the redistribution of, existing accommodation in junctions or other stations in view to their convenient mutual use.

The train service is to be such as the Secretary of State may require. In order to secure a general control over the rates quoted by companies, the Secretary of State has retained power to settle the classification of goods and to authorise maximum and minimum rates within which the companies shall be entitled to charge the public for the conveyance of passengers and goods of each class.

The company has to keep such accounts as the Secretary of State may require, and these are subject to audit by the Secretary of State.

In all other matters relating to the line the company is made subject to the supervision and control of the Secretary of State, who may appoint such persons as he may think proper for the purpose of inspecting the line, auditing the accounts, or otherwise exercising the powers of supervision and control reserved to him. In particular, the Secretary of State has the right to appoint a Government Director to the Board of the company, with a power of veto on all proceedings of the Board. All the moneys received by the company in respect of the undertaking, whether on capital or revenue account, have to be paid over to the Secretary of State.

All expenditure by the company has to be stated and submitted for the sanction of the Secretary of State.

Thus, the Government has the preponderating financial interest in the lines worked by the two classes of guaranteed companies, those formed before 1869 and retained as working agencies with reduced capital after purchase, and those formed on terms more favourable to the State after 1880; it has exceedingly wide control over the methods of working; and it has the right of taking possession of the lines at specified times on repayment at par of the capital of the companies.

Other Lines Worked by Companies.—In addition to the lines referred to above, and apart from lines constructed by Branch line companies, District Boards and Indian States, two lines of some importance have been constructed by companies which receive no direct assistance by the Government, namely, the Bengal and North-Western Railway and the Rohilkund and Kumaon Railway. (The Rohilkund and Kumaon Railway Company was guaranteed interest at 4 per cent. during construction and received for 10 years thereafter a subsidy of Rs. 20,000 per annum. This ceased in 1894.) While, however, these companies have no guarantee or other direct payment from the Government, they derive some advantage (partly through direct participation in profits and partly through reduction of expenses) from the fact that the working of certain State lines has been entrusted to them, the Tirhoot Railway to the former company and the Lucknow-Bareilly Railway to the latter. Their lines can be purchased by the State in 1942 on terms which are different in respect of the different sections of the lines, but are, on the whole, much more favourable to the companies than those provided for in the contracts with the guaranteed companies. Failing purchase in 1942, the lines will become the property of the State in 1981 on payment of certain amounts. The general administrative control exercised by the State over these companies and the control over expenditure are similar to that which is exercised as explained above, over guaranteed companies.

APPENDIX C.

The Organisation for Government control.

The initial policy of the Government of India for the construction and working of railways was the establishment of guaranteed railway companies of English domicile. Control over the operations of these companies was at first secured through the appointment of a Consulting Engineer of Guaranteed Railways. Some years later Local Consulting Engineers were appointed for the exercise of control over guaranteed railways and over State-owned railways in the construction of which the State had been financially interested and which had been leased to companies for working. These officers combined the duties of supervision and control on behalf of the Government of India and of an Inspector under the Government of India Railway Act. The Government of India were not directly concerned with the ownership of railways until 1868 when the Calcutta and South Eastern Railway was surrendered to the Indian Government under the terms of the contract between the Secretary of State and the Company.

Owing to the Government of India having in 1869 definitely adopted the policy of direct construction and ownership of railways, a period of rapid development of railway construction ensued and it became necessary to relieve the Public Works Department Secretariat of the Government of India in some measure of the detailed control of railways. Accordingly in 1874 a State Railway Directorate was established and the greater portion of the State Railway establishment and business connected with State Railway Administration was transferred to the control of the Director of State Railways, an officer who functioned on much the same lines as the head of a department under the Government of India. The Consulting Engineer to the Government of India for State Railways was at the same time associated with him but all important matters had still to be referred to the Public Works Department. A special Deputy Secretary in the Railway Branch of the Secretariat of the Public Works Department was also appointed to conduct the correspondence between the Government of India and these officers.

Early in 1877 a further change was made in the organisation responsible for the administration and control of State Railways and in the place of one Director of State Railways three Directors of territorial systems and one Director of State Railways Stores were appointed. These territorial divisions comprised the following systems:—

Central	1,179 miles.
Western	927 miles.
and North Eastern	830 miles.

This division of the administration on a territorial basis proved unsatisfactory in practice as it resulted in the issue of conflicting orders as far as the management of open lines was concerned although no difficulty was experienced in the supervision of new construction.

As the number of lines under construction had decreased and in order to remedy the defect just mentioned, it was decided in 1880 to abolish the Directors of the Central and Western Systems and to transfer the work allotted to them to the Consulting Engineers of the neighbouring guaranteed railways. The abolition of these two appointments resulted in an increase in the administrative work of the Secretariat and it was found necessary to raise the status of the Deputy Secretary to whom the powers previously exercised by the Directors had been entrusted, to that of Director General of Railways.

In the revised organisation the Consulting Engineer to the Government of India for State Railways was associated with the Director General of Railways and assisted the latter primarily in an advisory capacity in matters of civil engineering while the Director of Stores similarly acted in matters concerning stores and rolling-stock and at the same time was an adviser in matters affecting establishment. The Director of Traffic was appointed at the same time as an adviser on traffic problems and the accounts work of the department was placed under the Accountant General, Public Works Department.

Government control and supervision of the Guaranteed Railways continued to be exercised by the Local Consulting Engineers to Government. There were five such officers at the time with headquarters at Bombay, Madras, Calcutta, Lahore and Lucknow. The Consulting Engineers at Madras and Bombay worked directly under the Government of these presidencies, while those at Calcutta, Lahore and Lucknow were under the immediate orders of the Government of India. Under this arrangement practically all powers affecting the finances and day to day management of the

railways were vested either in the Consulting Engineers or in the Government, both for the guaranteed railway companies and later on for State Railways which had been leased for working to railway companies.

The following is a list of the administrative appointments that existed in 1881:—

1. Member of the Governor General's Council, Public Works Department.
2. Secretary, Public Works Department.
3. Deputy Secretary, Railway Branch.
4. Under Secretary, Railway Branch.
5. Consulting Engineer of State Railways.
6. Director General of Railways.
7. Director of Construction.
8. Accountant General, Public Works Department.
9. Director of State Railways, Stores.
10. Three Assistants to the Director General of Railways.
11. Consulting Engineers for Guaranteed Railways at Calcutta, Lahore and Lucknow.
12. Deputy Consulting Engineers for Guaranteed lines, Calcutta, Lahore and Lucknow.

Madras and Bombay.

13. Joint Secretary, Railway Branch and Consulting Engineer for Railways.
14. Deputy Secretary, Public Works Department.

Punjab.

15. Secretary, Public Works Department.

By this time also Local Governments and Administrations had been induced to take a practical interest in the management of railways and in a few cases short extensions had been constructed from funds the interest of which Local Governments had accepted responsibility to pay. Such lines were controlled by the Local Governments concerned under the general supervision of the Government of India.

After 1881 further alterations of a more or less detailed character were made in the administrative organisation and by 1890 the following changes had taken place. Instead of a Deputy Secretary and Under Secretary, Railway Branch, there were then only an Under Secretary and an Assistant Secretary, Railways, in the General Branch. The posts of Director of State Railways, Stores, and Director of Construction had disappeared and in their place there was an Under Secretary, who was an *ex-officio* Deputy Director General of Railways. The post of Accountant General, Railways, had also been abolished and the Accountant General, Public Works Department, was once more made responsible for this work.

Further changes were made in 1897. In that year the post of Director General of Railways was abolished and the post of a Secretary to the Government of India in the Public Works Department was created in its place. The other administrative and secretariat appointments at the headquarters of the Government of India at the time were:—

(1) Director of Railway Construction, and Deputy Secretary and *ex-officio* Director of Stores.

(2) Director of Railway Traffic, and Deputy Secretary and *ex-officio* Director of Railway Statistics.

(3) Two Under Secretaries.

(4) Two Assistant Secretaries.

(5) One Mechanical Assistant.

The post of Consulting Engineer for State Railways was also abolished and his duties transferred to the two Directors. The supervision of the accounts work of the Department, however, still remained under the Accountant General, Public Works Department, who was also an *ex-officio* Deputy Secretary to the Government of India.

In October 1901, Sir Thomas Robertson, C.V.O., was appointed by His Majesty's Secretary of State for India in Council as Special Commissioner for Indian Railways to enquire into and report on the administration and working of Indian Railways. In his report, which became available in 1903, Sir Thomas recommended that the administration of the railways in India should be entrusted to a small Board consisting of a President or Chief Commissioner who should have a thorough practical knowledge of railway working, and should be a member of the Viceroy's Council for railway

matters, and two other Commissioners who should be men of high railway standing and should have a similar training to that of the President. He recommended that the Board should, in addition to the necessary office establishment, be provided with—

(1) A Secretary who should have received a suitable training in the practical working of railways, and who should be *ex-officio* a Secretary to the Government of India.

(2) A Chief Inspector of Railways, to advise on all technical, engineering and mechanical questions.

(3) A suitable number of Government Inspectors.

Sir Thomas Robertson's recommendations were carefully considered by the Governor General in Council and the Secretary of State, and early in 1905 it was decided that the Railway Branch of the Public Works Department of the Government of India should be abolished and that the control of the railway systems in India should be transferred to a Railway Board consisting of three persons, a Chairman and two Members. The Chairman of the Board was vested with the general control of all questions committed to the Railway Board with power to act on his own responsibility subject to confirmation by the Board. The Railway Board were authorised to delegate to the Chairman or a member the power of settling questions which might arise on any tour of inspection, such decision to be recorded subsequently as an act of the Railway Board. The Board was made subordinate and directly responsible to the Government of India in the Department of Commerce and Industry.

The Railway Board assumed office in March 1905 and were provided with the following establishment:—

1. Secretary.
2. Examiner of Accounts.
3. Under Secretary, Construction.
4. Under Secretary, Traffic.
5. Registrar.
6. Director of Railway Construction.

Certain changes were, however, made in the following year and the establishment then consisted of:—

1 Secretary.

3 Assistant Secretaries; one each for Establishment, Construction and Traffic.

1 Registrar.

1 Director of Railway Construction.

1 Railway Accounts Officer.

Sir Thomas Robertson had further suggested in his detailed recommendations that extended powers, both administrative and financial, should be delegated to Boards of Directors of Companies, that the appointments of Consulting Engineers should be abolished and that the work which they perform under the Railways Act should be entrusted to a body of Government Inspectors to be appointed for the purpose. These recommendations were given effect to in a modified form in 1908.

Within a short time after the constitution of the Railway Board, it was found that work was being hampered by having the Commerce and Industry Department between the Railway Board and the Governor General in Council and in October 1908 on the recommendations of the Railway Finance Committee presided over by Sir James Mackay (then Lord Inchcape), the following changes were introduced:—

(1) The appointment of the Chairman of the Railway Board was changed into that of President of the Railway Board and enhanced powers were vested in the President.

(2) The Board with its staff became collectively the Railway Department distinct from and independent of the Department of Commerce and Industry, though remaining under the administrative charge of the Hon'ble Member, Commerce and Industry Department, as the Railway Member.

(3) The President of the Board was given direct access to the Viceroy as if he were a Secretary to the Government of India.

At the same time in consequence of the amalgamation of the Public Works Department Accounts and Civil Audit Establishments under the control of the Finance Member of the Government of India the appointment of Accountant General, Public Works Department, was abolished and the appointment of Accountant General, Railways, was revived.

In 1909 the post of Director of Railway Construction was abolished and the appointment of Chief Engineer with the Railway Board for the purpose of advising the Railway Board on technical matters connected with Civil Engineering was created.

In January 1914, it was decided that the importance of financial and commercial considerations in connection with the control of Indian railway policy justified a modification of the rule that the President and Members of the Railway Board should all be men of large experience in the actual working of railways. It was then decided that in future one member who equally with the others might be appointed President should be selected for commercial and financial experience and a member with the necessary qualifications was appointed.

This arrangement was, however, altered in 1920 when it was decided that all the three members of the Board should possess railway experience. To assist the Board, however, in the consideration of financial questions, the post of Financial Adviser to Railway Board was created.

Owing to the expansion of railways in India and the increased work thrown on the Board a second Assistant Secretary, Engineering, was appointed in 1914, and in 1916 the duties of the Construction Branch were divided between one branch dealing with Projects under an Assistant Secretary and a second branch dealing with Way and Works which was sometimes under a separate officer and at other times under the Secretary or Chief Engineer. In 1922 the charge of the Way and Works branch was divided between the Assistant Secretary in charge of Projects and the Assistant Secretary in charge of Stores.

In November 1922, the Board's establishment was strengthened by the appointment of a Chief Mechanical Engineer. This appointment was created to enable the Board to have at headquarters a reliable adviser on matters connected with mechanical engineering.

During 1921 a Committee presided over by Sir William Acworth visited India and one of the questions referred to them was the evolution of a satisfactory authority for the administration of the varied functions which the Railway Board had to perform as:—

(*a*) the directly controlling authority of the three State-worked systems aggregating 9,028 miles,

(*b*) representative of the predominant owning partner in systems aggregating 22,949 miles,

(*c*) the guarantor of many of the smaller companies,

(*d*) the statutory authority over all railways in India.

The Acworth Committee recommended in their report:—

(1) that a new Department of Communications responsible for railways, ports and inland navigation, road transport and posts and telegraphs under a Member of Council in charge of Communications should be created,

(2) that under the Member of Council for Communications there should be a technical staff consisting on the railway side of a Chief Commissioner and four Commissioners and that of the four one should be in charge of finance and the organisation and staff of the office and the other three Commissioners should be in charge of three respective divisions, Western, Eastern and Southern,

(3) that the technical staff attached to the Commission should be strengthened specially on the traffic side.

The Government of India, though they did not accept the first recommendation of the Acworth Committee, agreed to the re-organisation of the Railway Board being undertaken on the principles underlying the report of the Acworth Committee. The appointment of a Chief Commissioner was accordingly sanctioned in November 1922, and in accordance with the recommendations of the Acworth Committee he is solely responsible, under the Government of India, for arriving at decisions on technical questions and advising the Government of India on matters of Railway policy; he is not liable to be over-ruled, as the President was, by his colleagues in the Railway Board.

The first duty of the Chief Commissioner was to work out detailed proposals for the re-organisation of the Railway Board and as a first step he made recommendations to the Government of India for the immediate appointment of a Financial Commissioner. This recommendation was strongly endorsed by the Indian Retrenchment Committee and the appointment of the Financial Commissioner was made in April 1923 with the sanction of the Secretary of State. The further proposals of the Chief Commissioner for the re-organisation of the Railway Board were accepted by the Government of India and the Secretary of State and were introduced from the 1st April 1924. It was decided, however, for reasons connected with the present statutory position of the Railway Board, and to avoid confusion with the provisions for a Railway Commission under Chapter V of the Railways Act, to retain the name "Railway Board"

for the headquarters organisation of the Railway Department instead of "Railway Commission" as recommended by the Acworth Committee.

The Railway Board as then reconstituted consisted of the Chief Commissioner as President, the Financial Commissioner and two Members, the Chief Commissioner being Secretary to the Government of India in the Railway Department. The proposal of the Acworth Committee that the Indian Railways should be sub-divided into three territorial divisions with a Commissioner in charge of each was not accepted, and the work of the Members of the Board was divided on the basis of subjects and not on a territorial basis. One Member dealt with technical subjects and the other with general administration, personnel and traffic subjects, the Financial Commissioner representing the Finance Department on the Board and dealing with all financial questions.

The re-organisation carried out in 1924 had for one of its principal objects the relief of the Chief Commissioner and the Members from all but important work so as to enable them to devote their attention to larger questions of railway policy and to enable them to keep in touch with Local Governments, railway administrations and public bodies by touring to a greater extent than they had been able to do in the past. This object was effected by placing a responsible Director at the head of each of the main branches of the Board's work, namely Civil Engineering, Mechanical Engineering, Traffic and Establishment. The former Chief Engineer and the Chief Mechanical Engineer who had been employed mainly in consultative work, became Directors and together with the Directors of Traffic and Establishment have been made responsible for the direct disposal of the work of their branches under the general orders of the Railway Board.

The posts of Joint Secretary and 4 Assistant Secretaries were replaced by 6 Deputy Directors working under the Directors and in charge of branches dealing with Establishment, Works, Projects, Stores, Statistics and Traffic. One Assistant Director was also added to supervise the Technical Branch and the Drawing Office. The disposal of the general work of the Railway Board was provided for by the continuance of the post of Secretary in whose name all letters and orders of the Board are issued. The position of the Board as a Department of Government of India has been maintained and it works under the Member for Commerce and Railways. As already stated the Chief Commissioner is the Secretary to the Government of India in the Railway Department and orders issued by the Board over the signature of the Secretary are orders of the Government of India.

Experience of the working of this organisation during 1924-25 and the decision agreed to by the Legislative Assembly in September 1924 to separate railway finances from the general finances of the country made it necessary to appoint a Deputy Director and an Assistant Director of Finance. An Assistant Director of Statistics was also added during that year. Later a Director of Finance was added to the establishment occupying, as regards disposal of work, the same position as the Directors referred to above.

Further experience of the reduction of work resulting from the large delegation of powers and responsibility to the Agents of State-managed railways and the Board of Directors of Company-managed railways enabled a re-arrangement of work to be made during 1925-26 accompanied by a reduction in the staff. Under this re-arrangement the posts of 3 Deputy Directors, an Assistant Director and the Assistant Secretary were held in abeyance. The personnel work was transferred from the Director of Establishment to the Secretary and a temporary post of Deputy Secretary was created. Further a separate technical office was established to take charge of the technical work of the engineering branches. The Technical Officer also acted as *ex-officio* Secretary to the permanent Standardisation Committees which were appointed to deal progressively with all questions of standards of equipment.

This arrangement was found, however, to be inadequate. In addition to the general increase in work in the Railway Board's office consequent on the taking over of the East Indian, Great Indian Peninsula and Burma Railways under State control labour problems had assumed such importance and were so rapidly increasing in number and complexity that it was not possible to deal with them effectively without the appointment of additional staff. Accordingly it was decided to create an additional post of Member of the Railway Board to deal with staff and labour question, leaving the Member in charge of Traffic, who had hitherto been dealing with establishment matters, to devote his whole time to questions relating to the Transportation and Commercial aspects of Railway work.

It was also decided to revive the post of Deputy Director, Establishment, so as to free the Director of Establishment from this work, and thus enable him to give his time to the study of problems of railway labour. Of the two posts of Deputy Directors of Traffic and Statistics one was held in abeyance from 1925 and the two posts have since been amalgamated.

In October 1930 the compilation of statistical information which used previously to be done in the Board's office was entrusted to the Controller of Railway Accounts, and

with the transfer of this work, the post of Assistant Director of Statistics was also transferred from the Railway Board's office to that of the Controller of Railway Accounts.

In 1931-32, in view of the decline in traffic earnings and in the number and magnitude of Engineering works owing to financial stringency, the possibility of making temporary reductions in the organisation of the Board was explored and as a result of this examination and with the approval of the Secretary of State for India the following superior posts have been held in abeyance with effect from the dates noted below:—

Member, Traffic—29th March 1932.

Member, Engineering—5th May 1932.

Director, Civil Engineering—4th December 1931.

Director, Mechanical Engineering—1st April 1932.

Deputy Secretary—1st March 1932.

Assistant Director of Finance—31st July 1931.

It was also decided, for so long as the post of Member, Traffic, was held in abeyance, to create an additional temporary post of Deputy Director, Traffic, with effect from the 1st April 1932.

The re-organisation was complete in May 1932, and then the superior staff in the office of the Railway Board consisted of the Chief Commissioner, the Financial Commissioner, 1 Member, 3 Directors, 6 Deputy Directors and 1 Secretary.

Shortly after this, however, it was recognised that unless the work was to be seriously delayed, it would be impossible for the Chief Commissioner who had taken over the duties of the Member, Engineering, after that post had been held in abeyance, to devote the time that was necessary for the disposal of Civil Engineering business in the Railway Board's office and it was accordingly decided to revive the post of Director of Civil Engineering, which was being held in abeyance since December 1931, with effect from November 1932, from which date the post of Deputy Director, Civil Engineering, is being held in abeyance. It was also decided in October 1932 to convert the post of Chief Superintendent to that of Assistant Secretary. The post of Director, Mechanical Engineering, has been revived with effect from the 1st April 1935. As the Government of India had for some time felt the need for a whole time Member of the Railway Board devoting himself entirely to Traffic questions, such as competition with alternative means of transport, alterations in fares in order to improve net earnings, etc., the post of Member, Traffic, which was held in abeyance from 29th March 1932 has been revived with effect from the 12th October 1936 as a temporary measure but owing to increase of work in the Traffic Branch it has been decided not to abolish for the present the temporary post of Deputy Director, Traffic. An additional post of Deputy Director, Establishment, was created temporarily from the 17th October 1935 in order to deal with the increase in work consequent on the operation of the Government of India's orders regarding the representation of Muslims and other minority communities in Railway services. This post was continued up to the 15th April 1939. To cope with the increase of work in the Finance Branch, an additional post of Assistant Director, Finance, was also created temporarily from the 26th October 1936.

The existing superior staff in the Railway Board's office consists of the Chief Commissioner, the Financial Commissioner, 2 Members, 5 Directors, 6 Deputy Directors, 1 Secretary, 1 Assistant Secretary and 1 Assistant Director, Finance.

For the conduct of the work connected with the production of standard designs and specifications for all classes of materials, plant and rolling-stock in use on Indian Railways, a Central Standards Office for Railways was formed in January 1930 for a period of 5 years as an experimental measure, the post of Technical Officer with the Railway Board being abolished at the same time. The activities of this office towards the introduction of standard designs for railways on an all-India basis having proved successful, it was made permanent in 1935 with an addition to the existing staff, to carry out more extensive technical research to enable Indian Railways to keep abreast with modern development in railway practice.

APPENDIX D.

Resolution regarding the separation of Railway from General Finances, adopted by the Legislative Assembly on the 20th September 1924.

" This Assembly recommends to the Governor General in Council that in order to relieve the general budget from the violent fluctuations caused by the incorporation therein of the railway estimates and to enable railways to carry out a continuous railway policy based on the necessity of making a definite return to general revenues on the money expended by the State on Railways.

(1) The railway finances shall be separated from the general finances of the country and the general revenues shall receive a definite annual contribution from railways which shall be the first charge on the net receipts of railways.

(2) The contribution shall be based on the capital at charge and working results of commercial lines, and shall be a sum equal to one per cent. on the capital at charge of commercial lines (excluding capital contributed by companies and Indian States) at the end of the penultimate financial year *plus* one-fifth of any surplus profits remaining after payment of this fixed return, subject to the condition that, if in any year railway revenues are insufficient to provide the percentage of one per cent. on the capital at charge surplus profits in the next or subsequent years will not be deemed to have accrued for purposes of division until such deficiency has been made good.

The interest on the capital at charge of, and the loss in working, strategic lines shall be borne by general revenues and shall consequently be deducted from the contribution so calculated in order to arrive at the net amount payable from railway to general revenues each year.

(3) Any surplus remaining after this payment to general revenues shall be transferred to a railway reserve; provided that if the amount available for transfer to the railway reserve exceeds in any year three crores of rupees only two-thirds of the excess over three crores shall be transferred to the railway reserve and the remaining one-third shall accrue to general revenues.

(4) The railway reserve shall be used to secure the payment of the annual contribution to general revenues; to provide, if necessary, for arrears of depreciation and for writing down and writing off capital; and to strengthen the financial position of railways in order that the services rendered to the public may be improved and rates may be reduced.

(5) The railway administration shall be entitled, subject to such conditions as may be prescribed by the Government of India, to borrow temporarily from the capital or from the reserves for the purpose of meeting expenditure for which there is no provision or insufficient provision in the revenue budget subject to the obligation to make repayment of such borrowings out of the revenue budgets of subsequent years.

(6) A Standing Finance Committee for Railways shall be constituted consisting of one nominated official member of the Legislative Assembly who should be chairman and eleven members elected by the Legislative Assembly from their body. The members of the Standing Finance Committee for Railways shall be *ex-officio* members of the Central Advisory Council, which shall consist, in addition, of not more than one further nominated official member, six non-official members selected from a panel of eight elected by the Council of State from their body and six non-official members selected from a panel of eight elected by the Legislative Assembly from their body.

The Railway Department shall place the estimate of railway expenditure before the Standing Finance Committee for Railways on some date prior to the date for the discussion of the demand for grants for railways and shall, as far as possible, instead of the expenditure programme revenue show the expenditure under a depreciation fund created as per the new rules for charge to capital and revenue.

(7) The railway budget shall be presented to the Legislative Assembly if possible in advance of the general budget and separate days shall be allotted for its discussion, and the Member in charge of Railways shall then make a general statement on railway accounts and working. The expenditure proposed in the railway budget, including expenditure from the depreciation fund and the railway reserve, shall be placed before the Legislative Assembly in

the form of demands for grants. The form the budget shall take after separation, the detail it shall give and the number of demands for grants into which the total vote shall be divided shall be considered by the Railway Board in consultation with the proposed Standing Finance Committee for Railways with a view to the introduction of improvements in time for the next budget, if possible.

(8) These arrangements shall be subjected to periodic revision but shall be provisionally tried for at least three years.

(9) In view of the fact that the Assembly adheres to the resolution passed in February 1923, in favour of State management of Indian Railways, these arrangements shall hold good only so long as the East Indian Railway and the Great Indian Peninsula Railway and existing State-managed railways remain under State management. But if in spite of the Assembly's resolution above referred to Government should enter on any negotiations for the transfer of any of the above railways to Company management such negotiations shall not be concluded until facilities have been given for a discussion of the whole matter in the Assembly. If any contract for the transfer of any of the above railway to Company management is concluded against the advice of the Assembly, the Assembly will be at liberty to terminate the arrangements in this Resolution.

Apart from the above convention this Assembly further recommends—

(i) that the railway services should be rapidly Indianised, and further that Indians should be appointed as Members of the Railway Board as early as possible, and

(ii) that the purchases of stores for the State Railways should be undertaken through the organisation of the Stores Purchase Department of the Government of India."

APPENDIX E.

Government of India, Railway Department, Resolution No. 2131-F., dated the 19th February 1925, on the subject of the financing of branch lines of Railways.

The Governor General in Council, with the sanction of His Majesty's Secretary of State for India, is pleased to issue the following orders on the subject of financing of Branch Lines, in supersession of all previous orders on the subject.

1. Branch and Feeder Lines are constructed under an agreement by which the State guarantees a minimum return on the capital, or alternatively, undertakes that the line shall receive, out of the earnings of the main line from traffic contributed by the branch, such a sum, known as a rebate, as will make up the total earnings of the branch to a given sum, while the branch in each case shares with the main line any profits exceeding the guaranteed minimum.

2. This method of encouraging the construction of lines originated 30 years ago simply because the Government of India was unable to furnish the necessary capital.

3. The Acworth Committee pointed out that this method, while enabling lines to be built which would otherwise not have been built, has no other merit. The financial terms usual before the war are now quite inadequate and if the system is to continue they will have to be revised. All the witnesses before the Committee who asked for a revision of the terms admitted that, if the main line were in a position to build a given branch itself, they would prefer that it should be done by the main line rather than that it should be done as a separate undertaking.

4. Amongst the disadvantages pointed out by the Committee are the following:—

(i) The Branch Line Company is usually a fifth wheel to the coach. It implies in some cases a separate construction staff; it always implies a separate Board of Directors, and separate accounts.

(ii) Where the branch is worked by the main line, if its Directors feel that the management is unsatisfactory, they not only make representations to the main line administration, but in the last resort can appeal to the Railway Board which does not make for harmony.

(iii) Capital raised by a small private undertaking, even with a Government guarantee, will cost more than money raised by the State.

(iv) Inconcievable confusion results from the multiplication of independent Railway Companies—each company, small or great, desires to reserve for itself a separate sphere of influence; and jealously demands that, if any new-comer intrudes into that sphere, he shall pay toll to the original concessionaire. This only complicates a situation which ought to be considered solely from the point of view of the public interest. New proposals for the extension or connection of lines by small independent companies are either refused owing to protests by the old company or only permitted on a basis of elaborate accounting between the new company and the old for the profits which hypothetically would have belonged to the old line had the new line not been opened.

5. The only arguments urged in favour of the Branch Line Companies were:—

(i) That money had been raised which the Government of India was unable to furnish.

(ii) That a claim was made that the Branch Line Company obtained from local sources money that would never be subscribed to a Government loan.

(iii) That there may be cases of a Branch Line of smaller gauge *worked independently*, which the Branch Line Company can operate more economically than a main line.

6. The Acworth Committee, therefore, so far from approving of this system considered that the aim of the Government should be to reduce by amalgamation the number of existing companies and that it should only be in cases where the State cannot or will not provide adequate funds that private enterprise in the direction should be encouraged.

7. The disadvantages pointed out by the Acworth Committee required to be even further amplified. The existing Branch Line Companies have ceased for some time to raise additional capital for capital requirements. They have either obtained overdrafts from various Banks for this purpose at heavy rates of interest or issued debentures at special rates of interest (usually about 7 per cent.) or in several cases asked for money to be advanced to them by the Railway Board. So far, therefore, from reducing the amount

that the Government of India have to raise in the open market, they are at present increasing that amount.

8. Another serious disadvantage which is not mentioned by the Acworth Committee is that the main line usually works the Feeder or Branch Line for a remuneration which, in most cases, is limited to a maximum of a fixed percentage of the gross earnings of the Branch Line (usually 40 per cent. or 50 per cent.)—terms of remuneration which at present are grossly inadequate. The result of this arrangement is that many of the main lines whose working expenses are from 60 to 80 per cent. of the gross earnings are saddled with heavy expenditure which ought to have been debited to Branch Line Companies. Where the Branch Line Companies are "successful", that is, where the shares stand at a high figure, their profits are inflated owing to their working expenses being thus artificially reduced. Again, where in the case of less "prosperous" Branch Line Companies, the Government has to make a direct subsidy in order to make up the guaranteed interest on the capital, the amount paid by way of subsidy does not reveal the true loss of the Government in connection with the Branch Line Company. To this subsidy should be added also the additional loss incurred from the main line working the Branch Line at less than the actual cost. Even this, however, does not give a complete statement of the loss sustained by Government in connection with these Companies. These Companies have been supplied with land free of charge and the cost of such land is not taken into account either in the Capital or the Revenue Accounts of the Companies concerned.

9. The only real argument in favour of these Companies is that they must be utilised in cases where the Government itself is unable or declines to raise the necessary amount of capital for new constructions. It is doubtful whether such a position is likely to recur in the future. It is admitted that to use the agency of these Companies is a far more expensive method of raising money for the construction of railways than direct Government loans can ever be. The amount of assistance given by Branch Line Companies in the past has been trivial; the total amount of capital raised through the agency of Branch Line Companies has only been about Rs. $10\frac{3}{4}$ crores—an amount which in itself is less than the lapse that occurred last year in the provision for capital expenditure in the Railway Budget.

10. The difficulties and complications now experienced in connection with these Branch Line Companies are out of all proportion to the insignificant financial facilities offered by the Companies. The Government of India have therefore decided that the Branch Line policy should be abandoned and that an endeavour should be made to reduce the number of the existing Branch Line Companies. If on any occasion the Government of India should be unable to find funds for construction (which is not the case at present), and should it be considered advisable to tap fresh sources for subscription to railway loans by offering terms different from those given to the ordinary Government loans, that is, by offering not only a fixed rate of interest, but a share in the profits of a particular Branch Line, there appears to be no particular advantage of using a financial half-way house specially to float a loan on such terms; there appears to be no reason why the Government should not float the loan direct. But it will probably be found sufficient to raise short-term debentures at a high rate of interest—to be liquidated when the loan market is favourable—a procedure adopted now by the Branch Line Companies, but at a higher rate of interest than would be necessary for the Government.

11. There remains the case of the District Board Railways for which some of the capital or the security for the capital is secured by a special cess levied by the District Board throughout the district.

The Acworth Committee pointed out that where a District Board was the promoter of a new Branch Line, considerations other than purely commercial came into play with the result of further complications and confusion. In a footnote to the report they referred to the views expressed by the Madras Government who had drawn attention to a case in which, although no short-circuiting was involved, there had been a delay of over 10 years in arriving at a decision in regard to the terms for working a District Board Railway by the South Indian Railway Company. The amount of capital raised by District Boards for such lines has been only Rs. 137 lakhs while the amount raised by Company lines subsidised by District Boards amounts to Rs. $2\frac{1}{4}$ crores. These amounts are insignificant as compared with the total capital raised by the Government and it is clear that the relief afforded to the Government of India in raising the loans is quite disproportionate to the great complications which have resulted in the working of the railway administration. Loans raised direct by the District Boards do not relieve the market of the Government of India; the money is ultimately borrowed from the Government of India.

12. The legal position regarding the powers of District and Local Boards in the matter of railway construction and management depends in part on the Indian Railways Act, 1890, which, in the absence of express exclusion of its application, extends to all District Board railways and, in part on the nature of the provision made in the matter in the District or Local Boards Act of the province concerned. It is only in the

Madras Presidency that the question has assumed prominence and it will suffice to indicate briefly the nature of the provisions contained in the Madras Local Boards Act, 1920. Action under section 113 of that Act can only be taken " with the previous sanction of the Government of India ". Having obtained such sanction, a District Board may either itself construct and maintain a railway within, or partly within, the local area under the control of the Board, or may subscribe to any debenture loan raised by the Government of India or by any other local authority or by any company for the construction or maintenance of any railway which the Board considers likely to be of benefit to the district, or may guarantee the payment from the district fund of such sums as it shall think fit as interest on capital expended on any such railway (that is, whether the railway is constructed by the Government of India or by any other local authority or by a Company).

Section 236 of the same Act provides that the accumulations of a local railway cess may be utilised for all or any of the purposes specified in section 113, including the guaranteeing of payment of interest on capital spent on a railway.

A District Board in Madras, therefore, can guarantee the payment from the district fund of the money sufficient to make up minimum interest on capital expended on a railway within its area whether such railway is constructed by the Government of India or by a Company, the only disadvantage attaching to this particular form of guarantee being that the Act does not make the payment of the guaranteed interest a first charge on the District Board Fund.

13. The Government of India could not reasonably use their powers under the Indian Railways Act, 1890, or under, *e.g.*, section 113 of the Madras Local Boards Act, 1920, to prevent a District Board or a local body from constructing a light railway or a tramway which had no physical connection with any existing main line and which that local body proposed to work itself or through a local company. But as things stand at present there is no reason for continuing the practice under which District Boards are allowed to make money out of Branch Lines connected with a main line when they themselves cannot make any arrangements for the working of the lines and require to have them run by the main lines.

14. These District Board railways must not be confused with the light and feeder railways which constitute a provincial subject under the Devolution Rules. The provincial subject in question comprises " light and feeder railways and extra-municipal tramways in so far as provision for their construction and management is made by provincial legislation ". That is to say, it comprises only individual light or feeder railways or extra-municipal tramways for the construction and management of which specific provision has been made by an Act of the local legislature of the province concerned. Hitherto, no such legislation has been enacted with the result that the entry in question in the provincial schedule, as also the qualifying words to entry 5 (*a*)* in the central schedule, have no operation, and all existing railways of every description are included in the central subject defined in the last-named entry. It should also be observed that the provincial subject in question is " subject to legislation by the Indian Legislature in the case of any such railway or tramway which is in physical connection with a main line or is built on the same gauge as an adjacent line ", the effect being that a provincial bill designed to provide for the construction of a light or feeder railway or extra-municipal tramway in physical connection with a main line or built on the same gauge as an adjacent main line would require the previous sanction of the Governor General under clause (*f*) of sub-section (3) of section 80-A of the Government of India Act; and it may be presumed that few occasions are likely to arise in which provision will be made by local legislation for the construction of a light or feeder railway not answering one or other of these descriptions.

15. The proposal set forth in this Resolution is not designed to evade the legitimate operation of the legal position described, in the case of District Board railways, in paragraph 12 and in the case of provincial light and feeder railways, in paragraph 14; but it follows from the proposal that Local Governments and District or Local Boards should not, in the absence of special circumstances, be encouraged to build branch or feeder lines. In other words, the normal procedure will be the construction by the Government of India, or at its cost, by a Company, of a branch line which a District Board or Local Government desires to have constructed and is prepared to guarantee. But, should the railway programme not permit the construction of such a line within a reasonable time, the possibility of permitting a District Board or Local Government to construct it from its own funds would require consideration.

Unremunerative Lines.

16. The above proposals relate to the procedure adopted in the past and the procedure which it is proposed to adopt in the future for the financing of the construction of branch or feeder lines expected to prove remunerative from the point of

* " Railways and extra-municipal tramways, in so far as they are not classified as provincial subjects under entry 6 (*d*) of Part II of this Schedule."

view of railway earnings only. But there are cases where the Local Governments or local authorities may desire that a line should be constructed which will not be remunerative on railway earnings and the construction of which is desired by them for purely local reasons on account of the administrative advantages it is likely to confer or for the development of a particular area. It is proposed that in future the Railway Board in such circumstances should have power to arrange for the construction of the line from railway funds if the Local Government or the local authority guarantees the Railway Board against loss. The guarantee would be to the effect that the local authority would make up the difference between the net earnings and the interest and other charges payable. As it is not desirable that the Central Government should make any profit out of such contributions by local authorities, it is also proposed that where contributions have been made by a local authority for this purpose the repayment of such contributions should be a first charge on any net profit subsequently realised from the line, should the line prove remunerative.

17. The Central Government must, however, retain the power to decide whether a line is to be built or not; the proposals in the preceding paragraph must not be taken to imply that a Local Government by giving a guarantee can require the Railway Board to construct a line. Proposals of a Local Government might run counter to the general railway policy or might take the form of short-circuiting railway traffic and so lead to a reduction of receipts from existing lines.

18. These proposals have been circulated to Local Governments and have been generally welcomed by them as affording a suitable method of reconciling central and local interests and of providing for local bodies and Local Governments a method of securing the construction of railways which may be required for purely local reasons, and which, while not likely to prove remunerative on purely railway earnings, are likely to provide such indirect benefits to Local Governments and local bodies as will more than repay the amounts paid under the guarantee. Several such arrangements have already been made with Local Governments.

APPENDIX F.

I.—GAZETTED OFFICERS.

I.—*Statement of Gazetted Officers and Officers of corresponding rank employed on Class I Railways, Railway Board and other Railway Offices (excluding H. E. H. the Nizam's State, Jodhpur and Mysore State Railways) on the 31st March 1939 as compared with 31st March 1938.*

Item.	A. B.		B. N.		B. & N. W.		B., B. & C. I.		E. B.		E. I.		G. I. P.		M. & S. M.		N. W.		R. & K.		S. I.		Rly. Board and Miscellaneous offices.		TOTAL.	
	1938.	1939.	1938.	1939.	1938.	1939.	1938.	1939.	1938.	1939.	1938.	1939.	1938.	1939.	1938.	1939.	1938.	1939.	1938	1939.	1938.	1939.	1938.	1939.	1938.	1939.
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
1. *Agency Department*—																										
1·01. Europeans	2	2	4	4	4*	3	8	8	5	2	5	5	4	4	5	4	5*	7	2	1	3	3	4	2	51*	45
1·02. Indians—																										
(*a*) Hindus—																										
Other than Depressed classes	..	..	3	3	..	..	..	1	2	5	3	3	..	..	..	..	2	1	..	..	3	3	..	..	13	16
Depressed classes	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
(*b*) Muslims	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	..	..	..	..	..	..	2	1
(*c*) Anglo-Indians and domiciled Europeans	..	..	..	..	..	..	..	..	1	..	2	2	1	2	..	..	2*	2	..	..	1	1	..	..	7*	7
(*d*) Sikhs	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
(*e*) Indian Christians	..	..	..	..	..	..	1	1	..	..	..	..	1	1	..	..	..	..	..	..	..	..	..	..	2	2
(*f*) Parsis	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
(*g*) Other communities	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
(*h*) Total	1	..	3	3	..	..	1	2	3	5	5	5	2	3	..	..	5*	4	..	..	4	4	..	..	24*	26
1·03. GRAND TOTAL	3	2	7	7	4*	3	9	10	8	7	10	10	6	7	5	4	10	11	2	1	7	7	4	2	75*	71
2. *Accounts Department*—																										
2·01. Europeans	2	2	6	6	6	5	4	4	..	..	3	2	6	4	5	5	1	1	1	1	3	4	..	..	37	34
2·02. Indians—																										
(*a*) Hindus—																										
Other than Depressed classes	3	3	4	4	2	2	3	3	5	6	7	9	2	4	2	1	11*	8	2	2	5	5	7	7	53*	54
Depressed classes	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
(*b*) Muslims	..	..	..	..	..	..	2	2	..	..	1	1	..	..	..	1	4*	4	..	..	1	1	1	1	9*	10
(*c*) Anglo-Indians and domiciled Europeans	2	2	3	3	..	..	2	2	..	..	4	4	1	2	1	1	..	..	..	..	1	1	..	..	14	15
(*d*) Sikhs	..	..	1	1	..	..	..	..	1	1	..	..	..	..	..	..	3*	3	..	..	..	..	..	..	5*	5
(*e*) Indian Christians	..	..	..	..	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	..	..	2	2
(*f*) Parsis	..	..	..	..	..	..	2	2	..	..	..	..	1	1	2	2	..	..	..	..	..	..	..	..	5	5
(*g*) Other communities	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
(*h*) Total	5	5	8	8	3	3	9	9	6	7	12	14	4	7	5	5	18*	15	2	2	8	8	8	8	88*	91
2·03. GRAND TOTAL	7	7	14	14	9	8	13	13	6	7	15	16	10	11	10	10	19*	16	3	3	11	12	8	8	125*	125

*Revised figures.

APPENDIX F—*contd.*

I.—*Statement of Gazetted Officers and Officers of corresponding rank employed on Class I Railways, Railway Board and other Railway Offices (excluding H. E. H. the Nizam's State, Jodhpur and Mysore State Railways) on the 31st March 1939 as compared with 31st March 1938*—contd.

Item.	A. B.		B. N.		B. & N. W.		B., B. & C. I.		E. B.		E. I.		G. I. P.		M. & S. M.		N. W.		R. & K.		S. I.		Ry. Board and Mis-cellaneous offices.		TOTAL.	
	1938.	1939.	1938.	1939.	1938.	1939.	1938.	1938.	1938.	1939.	1938.	1939.	1938.	1939.	1938.	1939.	1938.	1939.	1938.	1939.	1938.	1939.	1938.	1939.	1938.	1939.
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
3. *Engineering Department*—																										
3·01. Europeans	9	9	31	29	18	17	27	23	15	13	30	26	38	35	22	17	37	35	2	2	20	21	9	9	258	236
3·02. Indians—																										
(*a*) Hindus—																										
Other than Depressed classes	8	8	10	11	4	3	15	16	15	16	34	34	12	12	17	19	47	51	..	..	17	19	2	1	181	190
Depressed classes	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
(*b*) Muslims	3	3	4	4	3	3	1	5	2	2	4	4	6	6	..	1	9	8	1	1	1	1	1	1	35	39
(*c*) Anglo-Indians and domiciled Europeans	1	1	10	11	2	1	1	1	2	2	6	6	3	2	1	1	9	11	..	1	..	2	1	1	36	40
(*d*) Sikhs	1	1	..	..	3	3	..	..	..	..	..	1	..	..	..	..	7	7	1	1	..	..	..	..	12	13
(*e*) Indian Christians	..	..	..	..	..	..	1	..	..	..	..	..	5	5	2	2	1	1	1	..	1	2	..	..	11	10
(*f*) Parsis	..	..	1	1	..	..	2	2	..	..	2	2	2	2	..	1	..	..	..	..	..	..	..	..	7	8
(*g*) Other communities	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
(*h*) Total	13	13	25	27	12	10	20	24	19	20	46	47	28	27	20	24	73	78	3	3	19	24	4	3	282	300
3·03. GRAND TOTAL	22	22	56	56	30	27	47	47	34	33	76	73	66	62	42	41	110	113	5	5	39	45	13	12	540	536
4. *Transportation*—																										
4·01. Europeans	5	6	19	19	8	8	*22	21	10	11	26	26	36	37	14	14	26	27	2	2	8	5	4	5	*180	181
4·02. Indians—																										
(*a*) Hindus—																										
Other than Depressed classes	5	2	16	15	3	3	*7	8	12	12	12	13	10	11	8	11	10	12	..	..	9	11	*1	1	*93	99
Depressed classes	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
(*b*) Muslims	1	3	10	11	2	2	4	5	4	3	5	3	5	5	1	1	7	9	1	1	3	2	2	1	45	46
(*c*) Anglo-Indians and domiciled Europeans	1	1	5	6	1	1	1	1	4	6	6	10	6	4	3	4	7	6	1	1	6	4	2	2	43	46
(*d*) Sikhs	..	..	2	1	..	..	1	1	..	..	1	1	..	..	2	2	5	5	..	..	..	..	..	..	11	10
(*e*) Indian Christians	..	..	1	1	..	..	3	3	..	..	1	1	..	1	1	3	1	1	..	..	1	1	..	..	8	11
(*f*) Parsis	..	..	..	..	..	..	2	2	..	..	..	..	..	1	1	1	..	..	..	..	..	..	..	..	3	4
(*g*) Other communities	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
(*h*) Total	7	6	34	34	6	6	*18	20	20	21	25	28	21	22	16	22	30	33	2	2	19	18	*5	4	*203	216
4.03. GRAND TOTAL	12	12	53	53	14	14	*40	41	30	32	51	54	57	59	30	36	56	60	4	4	27	23	*9	9	*383	397

* Revised figures.

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
5. *Commercial*—																										
5·01. Europeans	4	3			2	2					8	8	11	11							3	2	..	..	28	26
5·02. Indians—																										
(a) Hindus—																										
Other than Depressed classes	..	3			..	..					5	7	13	14							7	7	..	..	25	31
Depressed classes	..	..			..	..					.	..	..	..							..	..	..	..	..	..
(b) Muslims	..	..			2	2					2	1	1	1							..	..	..	..	5	4
(c) Anglo-Indians and domiciled Europeans	1	1	Included under Transportation.		..	..	Included under Transportation.				3	3	2	2	Included under Transportation.						2	2	..	..	8	8
(d) Sikhs	..	..			..	..					..	..	..	..							..	..	..	..	..	..
(e) Indian Christians	..	..			..	..					..	..	1	1							..	..	..	..	1	1
(f) Parsis	..	..			..	..					..	..	..	..							..	..	..	..	..	..
(g) Other communities	..	..			..	..					..	..	..	..							..	..	..	..	..	..
(h) Total	1	4			2	2					10	11	17	18							9	9	..	..	39	44
5·03. Grand Total	5	7			4	4					18	19	28	29							12	11	..	..	67	70
6. *Mechanical Engineering*—																										
6·01. Europeans	8	6	24	22	14	12	25	24	11	11	28	29	18	17	17	16	44	42	1	1	15	15	4	4	209	199
6·02. Indians—																										
(a) Hindus— Other than Depressed classes	2	1	8	8	..	..	5	8	7	9	21	22	4	4	5	8	10	10	..	..	7	9	..	..	69	79
Depressed classes	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
(b) Muslims	2	1	..	..	1	1	1	2	1	1	3	3	..	..	..	..	4	6	..	..	..	..	..	..	12	14
(c) Anglo-Indians and domiciled Europeans	1	..	4	7	..	..	..	1	3	3	6	5	1	1	..	2	1	1	..	..	..	..	..	..	16	20
(d) Sikhs	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	1	1	..	..	..	..	..	..	2	1
(e) Indian Christians	..	..	..	..	..	..	..	..	1	1	1	1	1	2	..	..	2	2	..	..	..	..	1	1	6	7
(f) Parsis	1	1	1	1	..	..	..	..	..	..	1	1	1	1	1	1	..	..	..	..	..	..	..	..	5	5
(g) Other communities	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
(h) Total	6	3	13	16	1	1	6	11	12	14	33	32	7	8	6	11	18	20	..	..	7	9	1	1	110	126
6·03. Grand Total	14	9	37	38	15	13	31	35	23	25	61	61	25	25	23	27	62	62	1	1	22	24	5	5	319	325
7. *Stores Department*—																										
7·01. Europeans	1	1	5	4	1	2	6	6	2	2	6	6	4	4	5	5	5	5	..	..	3	2	..	..	38	37
7·02. Indians—																										
(a) Hindus—																										
Other than Depressed classes	..	..	2	2	..	..	1	1	2	2	4	4	..	..	2	2	2	2	..	..	3	3	..	..	16	16
Depressed classes	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
(b) Muslims	..	..	..	..	..	..	1	1	..	..	..	..	2	2	..	..	1	2	..	..	..	..	..	..	4	5
(c) Anglo-Indians and domiciled Europeans	..	..	2	2	..	..	..	..	3	3	1	2	1	1	..	..	..	..	..	..	1	1	..	..	8	9
(d) Sikhs	..	..	..	..	..	..	..	..	..	..	1	1	..	..	..	..	..	..	..	..	..	..	..	..	1	1
(e) Indian Christians	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
(f) Parsis	..	..	..	..	..	..	1	1	..	..	..	..	1	1	1	1	..	..	..	..	..	..	..	..	3	3
(g) Other communities	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
(h) Total	..	..	4	4	..	..	3	3	5	5	6	7	4	4	3	3	3	4	..	..	4	4	..	..	32	34
7·03. Grand Total	1	1	9	8	1	2	9	9	7	7	12	13	8	8	8	8	8	9	..	..	7	6	..	..	70	71

APPENDIX F—*contd.*

*I.—Statement of Gazetted Officers and Officers of corresponding rank employed on Class I Railways, Railway Board and other Railway Offices (excluding **H. E. H.** the Nizam's State, Jodhpur and Mysore State Railways) on the 31st March 1939 as compared with 31st March 1938*—concld.

Item.	A. B.		B. N.		B. & N. W.		B., B. & C. I.		E. B.		E. I.		G. I. P.		M. & S. M.		N. W.		R. & K.		S. I.		Rly. Board and Miscellaneous offices.		Total.	
	1938.	1939.	1938.	1939.	1938.	1939.	1938.	1939.	1938.	1939.	1938	1939.	1938.	1939.	1938.	1939.	1938.	1939.	1938.	1939.	1938.	1939.	1938.	1939.	1938.	1939.
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
8. *Other Departments*—																										
8·01. Europeans	3	2	13	11	4	3	*14	10	2	3	23	23	8	7	10	9	4	4	..	..	5	4	16	15	*102	91
8·02. Indians—																										
(*a*) Hindus—																										
Other than Depressed classes	2	2	4	5	..	..	*5	4	5	4	14	17	3	3	4	5	3	3	1	1	2	2	*10	11	*58	57
Depressed classes	..	..	..	..	..	..	*..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	*..	..
(*b*) Muslims	..	..	..	..	..	..	1	1	..	..	1	1	..	..	..	..	2	2	..	..	..	..	2	2	6	6
(*c*) Anglo-Indians and domiciled Europeans	..	..	1	1	..	..	..	..	1	1	5	5	4	4	..	..	2	2	..	..	1	1	*5	4	*19	18
(*d*) Sikhs	..	..	1	1	..	..	..	..	..	..	1	1	..	..	..	..	2	2	..	..	..	..	2	2	6	6
(*e*) Indian Christians	..	..	..	..	..	..	..	..	..	..	..	..	1	1	2	2	..	..	..	..	..	..	*..	..	*3	3
(*f*) Parsis	..	..	..	..	..	..	3	3	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	3	3
(*g*) Other communities	..	..	..	..	..	..	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1
(*h*) Total	2	2	6	7	..	..	*10	9	6	5	21	24	8	8	6	7	9	9	1	1	3	3	*19	19	*91	94
8·03. Grand Total	5	4	19	18	4	3	*24	19	8	8	44	47	16	15	16	16	13	13	1	1	8	7	*35	34	*193	185
9. ***Total*—**																										
9·01. Europeans	34	31	102	95	*57	52	106	96	45	42	129	125	125	119	78	70	*122	121	8	7	60	56	37	35	*903	849
9·02. Indians—																										
(*a*) Hindus—																										
Other than Depressed classes	20	19	47	48	9	8	*36	41	48	54	100	109	44	48	38	46	*85	87	3	3	53	59	20	20	*503	542
Depressed classes	..	..	..	..	..	..	*..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	*..	..
(*b*) Muslims	7	7	14	15	8	8	10	16	7	6	16	13	14	14	1	3	*28	32	2	2	5	4	6	5	*118	125
(*c*) Anglo-Indians and domiciled Europeans	6	5	25	30	3	2	4	5	14	15	33	37	19	18	5	8	*21	22	1	2	12	12	*8	7	*151	163
(*d*) Sikhs	1	1	4	3	3	3	1	1	1	1	4	4	..	..	2	2	*18	18	1	1	..	..	2	2	*37	36
(*e*) Indian Christians	..	..	1	1	1	1	5	4	1	1	2	2	9	11	5	7	4	4	1	..	3	4	*1	1	*33	36
(*f*) Parsis	1	1	2	2	..	..	10	10	..	..	3	3	5	6	5	6	..	..	..	..	..	..	..	..	26	28
(*g*) Other communities	..	..	..	..	..	..	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1
(*h*) Total	35	33	93	99	24	22	67	78	71	77	158	168	91	97	56	72	*156	163	8	8	73	79	37	35	*869	931
9·03. Grand Total	69	64	195	194	*81	74	173	174	116	119	287	293	216	216	134	142	*278	284	16	15	133	135	74	70	*1,772	1,780
9·04. Grand Total including staff on loan from the Indian Audit and Accounts Service (Department).	69	64	195	194	*81	74	173	174	118	120	293	298	217	220	134	142	*282	288	16	15	133	135	..	..	..	..

* Revised figures.

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
10. *Increase* (+) *and Decrease* (—)																										
10·01. Europeans	..	—3	..	—7	..	—5	..	—10	..	—3	..	—4	..	—6	..	—8	..	—1	..	—1	..	—4	..	—2	..	—54
10·02. Indians—																										
(*a*) Hindus—																										
Other than Depressed classes	..	—1	..	+1	..	—1	..	+5	..	+6	..	+9	..	+4	..	+8	..	+2	..	..	..	+6	..	..	..	+39
Depressed classes	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
(*b*) Muslims	..	..	..	+1	..	..	..	+6	..	—1	..	—3	..	..	..	+2	..	+4	..	..	..	—1	..	—1	..	+7
(*c*) Anglo-Indians and domiciled Europeans	..	—1	..	+5	..	—1	..	+1	..	+1	..	+4	..	—1	..	+3	..	+1	..	+1	..	..	..	—1	..	+12
(*d*) Sikhs	..	..	..	—1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	—1
(*e*) Indian Christians	..	..	..	..	..	..	..	—1	..	..	..	..	..	+2	..	+2	..	..	..	—1	..	+1	..	..	..	+3
(*f*) Parsis	..	..	..	..	..	..	..	..	..	..	..	..	..	+1	..	+1	..	..	..	..	..	..	..	..	..	+2
(*g*) Other Communities	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
(*h*) Total	..	—2	..	+6	..	—2	..	+11	..	+6	..	+10	..	+6	..	+16	..	+7	..	..	..	+6	..	—2	..	+62
10·03. Grand Total	..	—5	..	—1	..	—7	..	+1	..	+3	..	+6	..	..	..	+8	..	+6	..	—1	..	+2	..	—4	..	+8
11. *Percentage of Total*—																										
11·01. Europeans	49·3	48·4	52·3	49·0	*70·4	70·3	61·3	54·9	38·8	35·3	44·9	42·7	57·9	55·1	58·2	49·3	*43·9	42·6	50·0	46·7	45·1	41·5	*50·0	50·0	*51·0	47·7
11·02. Indians—																										
(*a*) Hindus—																										
Other than Depressed classes	29·0	29·7	24·1	24·7	*11·1	10·8	*20·8	23·7	41·4	45·4	34·8	37·2	20·4	22·2	28·4	32·4	*30·6	30·6	18·8	20·0	39·8	43·7	*27·0	28·6	*28·4	30·4
Depressed classes	..	..	..	..	..	..	*..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	*..	..
(*b*) Muslims	10·1	10·9	7·2	7·7	*9·9	10·8	5·8	9·2	6·0	5·0	5·6	4·4	6·5	6·5	0·7	2·1	*10·1	11·3	12·5	13·3	3·8	3·0	*8·1	7·1	6·6	7·0
(*c*) Anglo-Indians and domiciled Europeans	8·6	7·8	12·8	15·5	3·7	2·7	2·3	2·9	12·1	12·6	11·5	12·6	8·8	8·3	3·7	5·7	*7·5	7·8	6·3	13·3	9·0	8·9	10·8	10·0	*8·5	9·2
(*d*) Sikhs	1·5	1·6	2·1	1·6	3·7	4·1	0·6	0·6	0·9	0·9	1·4	1·4	..	..	1·5	1·4	*6·5	6·3	6·2	6·7	..	..	*2·7	2·9	*2·1	2·0
(*e*) Indian Christians	..	..	0·5	0·5	1·2	1·3	2·9	2·3	0·8	0·8	0·7	0·7	4·1	5·1	3·7	4·9	*1·4	1·4	6·2	..	2·3	2·9	*1·4	1·4	*1·8	2·0
(*f*) Parsis	1·5	1·6	1·0	1·0	..	..	5·7	5·8	..	..	1·1	1·0	2·3	2·8	3·8	4·2	..	..	..	..	..	..	..	..	*1·5	1·6
(*g*) Other Communities	..	..	..	..	..	..	0·6	0·6	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	0·1	0·1

* Revised figures.

APPENDIX F—*contd.*

II.—SENIOR SUBORDINATES.

II.—Statement of Subordinates, drawing Rs. 250 per mensem and over or on scales of pay rising to Rs. 250 per mensem and over employed on Class I Railways, Railway Board and other Railway Offices (excluding H. E. H. the Nizam's State, Jodhpur and Mysore State Railways) on 31st March 1939 as compared with 31st March 1938.

Item.	A. B.		B. N.		B. & N. W.		B., B. & C. I.		E. B.		E. I.		G. I. P.		M. & S. M.		N. W.		R. & K.		S. I.		Total.	
	1938.	1939.	1938.	1939.	1938.	1939.	1938.	1939.	1938.	1939.	1938.	1939.	1938.	1939.	1938.	1939.	1938.	1939.	1938.	1939.	1938.	1939.	1938.	1939.
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
1. *Agency Department*—																								
1·01. Europeans	..	..	..	..	..	..	..	..	2	2	..	..	..	..	..	..	1	2	..	..	..	..	3	4
1·02. Indians—																								
(a) Hindus—																								
Other than Depressed classes	..	..	5	6	1	2	9	11	14	13	7	14	2	1	3	3	7	8	..	..	3	3	51	61
Depressed classes	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
(b) Muslims	..	..	..	..	..	..	2	1	..	..	..	..	..	..	..	..	2	3	1	1	..	..	5	5
(c) Anglo-Indians and domiciled Europeans	1	1	..	..	1	1	3	3	1	1	8	4	1	1	1	1	2	1	..	..	1	1	19	14
(d) Sikhs	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
(e) Indian Christians	..	..	..	..	..	..	2	2	..	..	..	..	2	3	..	..	1	1	..	..	..	..	5	6
(f) Parsis	..	..	..	..	..	..	*3	3	..	..	..	..	..	..	..	..	..	..	..	..	..	..	*3	3
(g) Other communities	..	..	..	..	..	..	..	..	1	1	..	..	1	1	..	..	..	..	..	..	..	..	*2	2
(h) Total	1	1	5	6	2	3	19	20	16	15	15	18	6	6	4	4	12	13	1	1	4	4	85	91
1·03 Grand Total	1	1	5	6	2	3	19	20	18	17	15	18	6	6	4	4	13	15	1	1	4	4	88	95
2. *Accounts Department*—																								
2·01. Europeans	..	..	..	..	..	..	*2	1	..	..	7	7	..	..	..	..	..	..	..	..	..	..	*9	8
2·02. Indians—																								
(a) Hindus—																								
Other than Depressed classes	6	7	29	28	*5	4	*22	24	33	23	*57	54	22	19	8	8	*49	47	1	1	18	18	*250	233
Depressed classes	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
(b) Muslims	..	..	1	2	3	2	2	1	..	..	6	7	..	..	1	..	*18	18	1	1	1	1	*33	32
(c) Anglo-Indians and domiciled Europeans	1	1	22	25	6	7	*13	15	6	6	7	7	15	14	9	9	2	2	..	..	3	3	*84	89
(d) Sikhs	..	..	..	..	..	..	..	..	..	1	1	1	..	..	..	..	*7	7	..	..	..	..	*8	9
(e) Indian Christians	..	..	1	1	..	..	..	..	..	..	..	..	2	2	..	..	..	..	..	..	..	..	3	3
(f) Parsis	..	..	..	..	..	..	9	6	..	..	..	..	1	..	2	2	..	..	..	..	..	..	12	8
(g) Other communities	..	..	..	..	..	..	..	..	..	..	..	..	1	1	..	..	..	..	..	..	..	..	1	1
(h) Total	7	8	53	56	*14	13	*46	46	39	30	*71	69	41	36	20	19	*76	74	2	2	22	22	*391	375
2·03. Grand Total	7	8	53	56	*14	13	*48	47	39	30	*78	76	41	36	20	19	*76	74	2	2	22	22	*400	383

* Revised figures.

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
3. *Engineering Department*—																								
3·01. Europeans	1	1	3	4	3	3	*10	8	2	2	26	17	13	11	5	4	20	20	..	..	3	4	*86	74
3·02. Indians—																								
(a) Hindus																								
Other than Depressed classes	13	13	45	48	3	5	*76	88	37	39	106	113	65	59	24	25	*100	102	1	1	11	14	*481	507
Depresssed classes	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1
(b) Muslims	4	3	5	4	4	4	10	9	4	5	11	10	13	11	2	1	62	62	..	..	2	2	117	111
(c) Anglo-Indians and domiciled Europeans	4	4	31	33	14	13	*10	14	17	17	96	92	58	54	15	14	40	36	1	3	11	16	*297	296
(d) Sikhs	2	2	3	4	..	..	..	..	3	3	*7	7	7	6	..	..	34	33	..	..	..	..	*56	55
(e) Indian Christians	..	..	3	2	..	..	*3	2	1	1	*3	4	10	11	5	4	4	2	1	..	2	2	*32	28
(f) Parsis	..	..	..	..	..	..	*20	21	..	..	..	..	9	9	2	2	1	1	..	..	..	..	*32	33
(g) Other communities	..	..	..	..	..	..	3	4	..	..	..	2	3	3	..	..	1	2	..	..	..	..	7	11
(h) Total	24	23	87	91	21	22	*122	138	62	65	223	228	165	153	48	46	*242	238	3	4	26	34	*1,023	1,042
3·03. GRAND TOTAL	25	24	90	95	24	25	*132	146	64	67	249	245	178	164	53	50	*262	258	3	4	29	38	*1,109	1,116
4. *Transportation*—																								
4.01. Europeans	..	1	14	14	2	1	*25	20	18	15	71	62	71	62	..	..	80	72	..	..	4	4	*285	251
4·02. Indians—																								
(a) Hindus—																								
Other than Depressed classes	4	4	89	94	5	5	*103	107	32	33	*52	53	89	92	2	2	83	86	1	1	7	9	*467	486
Depressed classes	..	..	..	..	..	..	..	..	..	..	..	..	1	2	..	..	..	..	..	..	..	..	1	2
(b) Muslims	..	1	10	13	..	..	*6	10	..	..	4	5	16	16	1	1	41	42	..	..	..	..	*78	88
(c) Anglo-Indians and domiciled Europeans	14	25	59	56	15	15	*32	32	38	38	152	158	461	439	26	23	72	63	4	5	15	9	*888	863
(d) Sikhs	..	1	5	7	..	..	..	..	3	3	..	..	1	1	..	..	16	18	..	..	..	..	25	30
(e) Indian Christians	..	1	3	11	..	..	*15	18	1	1	2	2	51	52	1	..	9	9	..	..	..	..	*82	94
(f) Parsis	..	..	..	..	..	..	*37	37	..	..	1	1	18	12	..	..	12	14	..	..	..	..	*68	64
(g) Other communities	..	..	..	..	..	..	4	4	..	..	..	..	14	12	..	1	1	3	..	..	..	..	19	20
(h) Total	18	32	166	181	20	20	*197	208	74	75	*211	219	651	626	30	27	234	235	5	6	22	18	*1,628	1,647
4·03. GRAND TOTAL	18	33	180	195	22	21	*222	228	92	90	*282	281	722	688	30	27	314	307	5	6	26	22	*1,913	1,898
5. *Commercial*—																								
5·01. Europeans	..	..	Included under Transportation.		..	..	Included under Transportation				14	12	..	..	Included under Transportation.		3	2	Included under Transportation.		..	..	17	14
5·02. Indians—																								
(a) Hindus—																								
Other than Depressed classes	5	5			1	2					39	42	29	25			22	17			6	6	102	97
Depressed classes	..	..			..	..					..	..	..	..			..	..			..	..	..	..
(b) Muslims	..	..			1	1					8	5	2	2			9	7			..	..	20	15
(c) Anglo-Indians and domiciled Europeans	..	..			1	1					18	24	11	9			4	4			..	..	34	38
(d) Sikhs	..	..			..	..					1	1	..	..			5	8			..	..	6	9
(e) Indian Christians	..	..			..	..					..	..	6	5			1	2			..	..	7	7
(f) Parsis	..	..			..	..					..	..	..	..			..	1			..	..	..	1
(g) Other communities	1	..			..	..					..	..	*2	3			..	1			..	..	3	4
(h) Total	6	5			3	4					66	72	50	44			41	40			6	6	172	171
5·03. GRAND TOTAL	6	5			3	4					80	84	50	44			44	42			6	6	189	185

* Revised figures.

APPENDIX F—*contd.*

II.—*Statement of Subordinates, drawing Rs. 250 per mensem and over or on scales of pay rising to Rs. 250 per mensem and over employed on Class I Railways, Railway Board and other Railway Offices (excluding H. E. H. the Nizam's State, Jodhpur and Mysore State Railways) on 31st March 1939 as compared with 31st March 1938*—contd.

Item.	A. B.		B. N.		B. & N. W.		B., B. & C. I.		E. B.		E. I.		G. I. P.		M. & S. M.		N. W.		R. & K.		S. I.		TOTAL.	
	1938.	1939.	1938.	1939.	1938.	1939.	1938.	1939.	1938.	1939.	1938.	1939.	1938.	1939.	1938.	1939.	1938.	1939.	1938.	1939.	1938.	1939.	1938.	1939.
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
6. *Mechanical Engineering*—																								
6·01. Europeans	12	11	43	35	9	8	*107	105	27	28	151	154	47	44	43	39	*89	91	5	3	14	15	*547	533
6·02. Indians—																								
(a) Hindus—																								
Other than Depressed classes	5	5	35	30	3	3	*58	65	43	55	*163	169	27	29	11	7	*101	98	..	..	29	28	*475	489
Depressed classes	..	..	..	..	..	1	*1	1	..	..	2	2	..	..	..	..	..	..	..	..	..	..	*3	4
(b) Muslims	1	..	4	5	1	1	*7	8	3	4	19	19	2	2	1	1	83	89	..	..	4	6	*125	135
(c) Anglo-Indians and domiciled Europeans	19	8	300	312	14	21	*191	191	71	71	621	611	98	99	94	91	213	212	5	6	106	94	*1,732	1,716
(d) Sikhs	2	1	9	5	..	..	1	1	1	1	6	5	2	2	3	3	39	39	..	..	..	..	63	57
(e) Indian Christians	3	2	5	3	..	..	*19	13	1	1	3	2	13	14	..	..	5	6	..	..	7	7	*56	48
(f) Parsis	..	..	1	1	..	..	*18	24	..	..	1	1	5	4	..	..	6	6	..	..	..	..	*31	36
(g) Other communities	1	..	1	..	..	..	*13	18	2	2	4	3	3	3	..	..	7	5	..	..	..	..	*31	31
(h) Total	31	16	355	356	18	26	*308	321	121	134	*819	812	150	153	109	102	*454	455	5	6	146	135	*2,516	2,516
6·03. GRAND TOTAL	43	27	398	391	27	34	*415	426	148	162	*970	966	197	197	152	141	*543	546	10	9	160	150	*3,063	3,049
7. *Stores Department*—																								
7·01. Europeans	..	..	..	..	..	..	..	..	..	..	3	3	2	2	1	1	7	6	..	..	..	..	13	12
7·02. Indians—																								
(a) Hindus—																								
Other than Depressed classes	1	1	12	12	..	..	10	11	11	13	15	15	6	6	2	2	17	18	..	..	3	2	77	80
Depressed classes	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
(b) Muslims	..	..	..	..	..	..	1	..	..	..	4	5	..	..	..	..	10	13	..	..	..	..	15	18
(c) Anglo-Indians and domiciled Europeans	1	1	11	10	..	..	..	..	2	1	20	17	..	..	2	1	7	9	..	..	1	1	44	40
(d) Sikhs	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	3	3	..	..	..	..	3	3
(e) Indian Christians	..	..	2	2	..	..	2	1	..	..	..	..	1	1	..	1	1	1	..	..	..	..	6	6
(f) Parsis	..	..	..	..	..	..	..	..	..	..	..	..	2	1	..	..	1	..	..	..	..	..	3	1
(g) Other communities	..	..	..	..	..	..	2	1	..	1	..	..	..	..	..	..	..	..	..	..	..	..	2	2
(h) Total	2	2	25	24	..	..	15	13	13	15	39	37	9	8	4	4	39	44	..	..	4	3	150	150
7·03. GRAND TOTAL	2	2	25	24	..	..	15	13	13	15	42	40	11	10	5	5	46	50	..	..	4	3	163	162

* Revised figures.

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
8. *Other Departments*—																								
8·01. Europeans	..	..	17	14	4	3	11	6	1	2	*33	30	2	1	2	2	*5	5	..	..	1	1	*76	64
8·02. Indians—																								
(a) Hindus—																								
Other than Depressed classes	4	4	27	34	*6	6	*48	31	15	15	*88	79	9	11	22	21	*10	11	..	..	3	3	*232	215
Depressed classes	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
(b) Muslims	..	..	1	4	1	..	*1	1	3	3	*9	8	3	4	..	..	*5	5	..	..	1	1	*24	26
(c) Anglo-Indians and domiciled Europeans	6	4	20	27	8	8	*19	12	8	8	*54	61	9	11	15	14	*12	12	..	..	2	2	*153	159
(d) Sikhs	..	..	..	..	..	..	..	..	..	..	1	1	1	1	1	..	1	1	..	..	..	..	4	3
(e) Indian Christians	..	..	..	..	..	..	*4	4	..	..	2	2	8	4	1	1	3	1	..	..	4	4	*22	16
(f) Parsis	..	..	2	2	..	..	*8	8	..	..	1	1	6	6	..	..	..	..	..	..	..	..	*17	17
(g) Other Communities	..	..	..	..	1	1	..	..	..	..	..	..	2	1	..	..	..	..	..	..	..	..	3	2
(h) Total	10	8	50	67	*16	15	*80	56	26	26	155	152	38	38	39	36	*31	30	..	..	10	10	*455	438
8·03. GRAND TOTAL	10	8	67	81	*20	18	*91	62	27	28	*188	182	40	39	41	38	*36	35	..	..	11	11	*531	502
9. *Railway Board and other Railway offices*—																								
9·01. Europeans	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1
9·02. Indians—																								
(a) Hindus—																								
Other than Depressed classes	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	146	140
Depressed classes	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1
(b) Muslims	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	28	28
(c) Anglo-Indians and domiciled Europeans	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	16	17
(d) Sikhs	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	14	14
(e) Indian Christians	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	6	6
(f) Parsis	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
(g) Other Communities	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
(h) Total	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	210	206
9·03. GRAND TOTAL	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	211	207
10. *Total*—																								
10·01. Europeans	13	13	77	67	18	15	*155	140	50	49	*305	285	135	120	51	46	205	198	5	3	22	24	*1,037	961
10·02. Indians—																								
(a) Hindus—																								
Other than Depressed classes	38	39	242	252	24	27	*326	337	185	191	*527	539	249	242	72	68	*389	387	3	3	80	83	*2,281	2,308
Depressed classes	1	1	..	..	..	1	*1	1	..	..	2	2	1	2	..	..	..	..	..	..	..	..	*5	8
(b) Muslims	5	4	21	28	10	8	*29	30	10	12	*61	59	36	35	5	3	230	239	2	2	8	10	445	458
(c) Anglo-Indians and domiciled Europeans	46	44	443	463	59	66	*268	267	143	142	*976	974	653	627	162	153	*352	339	10	14	139	126	3,267	3,232
(d) Sikhs	4	4	17	16	..	..	1	1	7	8	*16	15	11	10	4	3	*105	109	..	..	..	..	179	180
(e) Indian Christians	3	3	14	19	..	..	*45	40	3	3	*10	10	93	92	7	6	24	22	1	..	13	13	*219	214
(f) Parsis	..	..	3	3	..	..	*95	99	..	..	3	3	41	32	4	4	20	22	..	..	..	..	*166	163
(g) Other Communities	2	..	1	..	1	1	*22	27	3	4	4	5	26	24	..	1	9	11	..	..	..	..	*68	73
(h) Total	99	95	741	781	94	103	787	802	351	360	*1,599	1,607	1,110	1,064	254	238	*1,129	1,129	16	19	240	232	*6,630	6,636
10·03. GRAND TOTAL	112	108	818	848	112	118	*942	942	401	409	1,904	1,892	1,245	1,184	205	284	*1,334	1,327	21	22	262	256	*7,667	7,597

* Revised figures.

APPENDIX F—*concld.*

II.—*Statement of Subordinates, drawing Rs. 250 per mensem and over or on scales of pay rising to Rs. 250 per mensem and over employed on Class I Railways, Railway Board and other Railway Offices (excluding H. E. H. the Nizam's State, Jodhpur and Mysore State Railways) on 31st March 1939 as compared with 31st March 1938*—concld.

Item.	A. B.		B. N.		B. & N. W.		B., B. & C. I.		E. B.		E. I.		G. I. P.		M. & S. M.		N. W.		R. & K.		S. I.		TOTAL.	
	1938.	1939.	1938.	1939.	1938.	1939.	1938.	1939.	1938.	1939.	1938.	1939.	1938.	1939.	1938.	1939.	1938.	1939.	1938.	1939.	1938.	1939.	1938	1939.
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
11. *Increase* (+) *Decrease* (—)																								
11·01. Europeans	..	..	..	—10	..	—3	..	—15	..	—1	..	—20	..	—15	..	—5	..	—7	..	—2	..	+2	..	—76
11·02. Indians—																								
(*a*) Hindus—																								
Other than Depressed classes	..	+1	..	+10	..	+3	..	+11	..	+6	..	+12	..	—7	..	—4	..	—2	..	..		+3	..	+27
Depressed classes	..	..	..	..	..	+1	..	..	..	..	..	..	..	+1	..	..	..	..	..	..	..	..	..	+3
(*b*) Muslims	..	—1	..	+7	..	—2	..	+1	..	+2	..	—2	..	—1	..	—2	..	+9	..	..	..	+2	..	+13
(*c*) Anglo-Indians and domiciled Europeans	..	—2	..	+20	..	+7	..	—1	..	—1	..	—2	..	—26	..	—9	..	—13	..	+4	..	—13	..	—35
(*d*) Sikhs	..	..	..	—1	..	..	..	..	..	+1	..	—1	..	—1	..	—1	..	+4	..	..	..	..	..	+1
(*e*) Indian Christians	..	..	..	+5	..	..	..	—5	..	..	..	..	..	—1	..	—1	..	—2	..	—1	..	..	..	—5
(*f*) Parsis	..	..	..	..	..	..	..	+4	..	..	..	..	..	—9	..	..	..	+2	..	..	..	..	..	—3
(*g*) Other Communities	..	—2	..	—1	..	..	..	+5	..	+1	..	+1	..	—2	..	+1	..	+2	..	..	..	..	..	+5
(*h*) Total	..	—4	..	+40	..	+9	..	+15	..	+9	..	+8	..	—46	..	—16	..	..	..	+3	..	—8	..	+6
11·03. GRAND TOTAL	..	—4	..	+30	..	+6	..	..	..	+8	..	—12	..	—61	..	—21	..	—7	..	+1	..	—6	..	—70
12. *Percentage of total*—																								
12·01. Europeans	11·6	12·0	9·4	7·9	16·1	12·7	*16·5	14·9	12·5	12·0	*16·0	15·1	10·8	10·1	16·7	16·2	15·4	14·9	23·8	13·6	8·4	9·4	*13·5	12·7
12·02. Indians—																								
(*a*) Hindus—																								
Other than Depressed classes	33·9	36·1	29·6	29·7	21·4	22·9	*34·6	35·7	46·1	46·7	*27·7	28·5	20·0	20·4	23·6	23·9	*29·1	29·2	14·3	13·6	30·5	32·4	*29·7	30·4
Depressed classes	0·9	0·9	..	..	..	0·8	*0·1	0·2	..	..	0·1	0·1	0·1	0·2	..	..	..	..	..	..	..	..	0·1	0·1
(*b*) Muslims	4·5	3·7	2·6	3·3	8·9	6·8	3·1	3·2	2·5	2·9	3·2	3·1	2·9	3·0	1·7	1·1	*17·2	18·0	9·5	9·1	3·0	3·9	5·8	6·0
(*c*) Anglo-Indians and domiciled Europeans	41·1	40·8	54·1	54·6	52·6	56·0	*28·4	28·3	35·7	34·7	*51·3	51·5	52·4	53·0	53·1	53·9	*26·4	25·5	47·6	63·7	53·1	49·2	42·6	42·5
(*d*) Sikhs	3·5	3·7	2·1	1·9	..	..	0·1	0·2	1·8	2·0	*0·9	0·8	0·9	0·8	1·3	1·1	7·9	8·2	..	..	..	..	2·3	2·4
(*e*) Indian Christians	2·7	2·8	1·7	2·2	..	..	*4·8	4·2	0·7	0·7	*0·5	0·5	7·5	7·8	2·3	2·1	1·8	1·7	4·8	..	5·0	5·1	2·9	2·8
(*f*) Parsis	..	..	0·4	0·4	..	..	*10·1	10·5	..	..	0·1	0·2	3·3	2·7	1·3	1·4	1·5	1·7	..	..	..	..	2·2	2·1
(*g*) Other Communities	1·8	..	0·1	..	1·0	0·8	*2·3	2·8	0·7	1·0	0·2	0·2	2·1	2·0	..	0·3	0·7	0·8	..	..	..	..	0·9	1·0

* Revised figures.

APPENDIX G-I.

Statement showing the number of appointments made to the Superior Services on State Railways and of corresponding rank on Companies' Railways (Class I) excluding H. E. H. the Nizam's State, Jodhpur and Mysore State Railways during 1938-39.

Departments.	No. of vacancies actually filled.	FILLED BY								
		Europeans.	INDIANS.							
			Hindus.	Muslims.	Anglo-Indians and Domiciled Europeans.	Sikhs.	Indian Christians.	Parsis.	Other classes.	Total.
1	2	3	4	5	6	7	8	9	10	11
STATE-MANAGED RAILWAYS.										
1. Agency	..	..	..	..	..	..	..	..	..	..
2. Accounts	3	..	2	..	1	..	..	..	..	3
3. Engineering	4	..	1	1	1	..	..	1	..	4
4. Transportation (Traffic) and Commercial.	7	1	3	1	1	..	1	..	..	6
5. Transportation (Power) and Mechanical Engineering.	3	..	2	1	..	..	..	..	..	3
6. Stores Department	..	..	..	..	..	..	..	..	..	..
7. Other Departments . . .	..	..	..	..	..	..	..	..	..	..
8. TOTAL—										
1938-39	17	1	8	3	3	..	1	1	..	16
1937-38	30	7	13	4	4	1	..	1	..	23
9. Percentage of Europeans to number of vacancies filled—										
1938-39	5·9	..	..	..	..	..	..	..	..	..
1937-38	23·3	..	..	..	..	..	..	..	..	..
10. Percentage of Indians to number of vacancies filled—										
1938-39	94·1	..	..	..	..	..	..	..	..	..
1937-38	76·7	..	..	..	..	..	..	..	..	..
OTHER RAILWAYS.										
Assam Bengal Railway.										
1. Agency	..	..	..	..	..	..	..	..	..	..
2. Accounts	..	..	..	..	..	..	..	..	..	..
3. Engineering	..	..	..	..	..	..	..	..	..	..
4. Transportation and Commercial .	..	..	..	..	..	..	..	..	..	..
5. Mechanical	1	..	..	1	..	..	..	..	..	1
6. Stores	..	..	..	..	..	..	..	..	..	..
7. Other Departments . . .	..	..	..	..	..	..	..	..	..	..
8. TOTAL—										
1938-39	1	..	..	1	..	..	..	..	..	1
1937-38	6	..	4	1	..	..	..	1	..	6
9. Percentage of Europeans to number of vacancies filled—										
1938-39	0·00	..	..	..	..	..	..	..	..	..
1937-38	0·00	..	..	..	..	..	..	..	..	..
10. Percentage of Indians to number of vacancies filled—										
1938-39	100·0	..	..	..	..	..	..	..	..	..
1937-38	100·0	..	..	..	..	..	..	..	..	..

APPENDIX G-I—*contd.*

Statement showing the number of appointments made to the Superior Services on State Railways and of corresponding rank on Companies' Railways (Class I) excluding H. E. H. the Nizam's State, Jodhpur and Mysore State Railways during 1938-39—contd.

Departments.	No. of vacancies actually filled.	FILLED BY								
		Europeans.	INDIANS.							
			Hindus.	Muslims.	Anglo-Indians and domiciled Europeans.	Sikhs.	Indian Christians.	Parsis.	Other classes.	Total.
1	2	3	4	5	6	7	8		10	11
Bengal and North-Western Railway.										
1. Agency	..	..	..	..	..	..	..	..	..	..
2. Accounts	2	1	1	..	..	..	..	..	..	1
3. Engineering	3	2	..	1	..	..	..	..	..	1
4. Transportation and Commercial	..	..	..	..	..	..	..	..	..	..
5. Mechanical	1	1	..	..	..	..	..	..	..	..
6. Stores	..	..	..	..	..	..	..	..	..	..
7. Other Departments	..	..	..	..	..	..	..	..	..	..
8. TOTAL—										
1938-39	6	4	1	1	..	..	..	..	..	2
1937-38	9	3	..	2	1	2	1	..	..	6
9. Percentage of Europeans to number of vacancies filled—										
1938-39	66·7	..	..	..	..	..	..	..	..	..
1937-38	33·3	..	..	..	..	..	..	..	..	..
10. Percentage of Indians to number of vacancies filled—										
1938-39	33·3	..	..	..	..	..	..	..	..	..
1937-38	66·7	..	..	..	..	..	..	..	..	..
Bengal Nagpur Railway.										
1. Agency	..	..	..	..	..	..	..	..	..	..
2. Accounts	..	..	..	..	..	..	..	..	..	..
3. Engineering	6	..	4	..	2	..	..	..	..	6
4. Transportation and Commercial	3	..	1	1	1	..	..	..	..	3
5. Mechanical	3	..	..	..	3	..	..	..	..	3
6. Stores	..	..	..	..	..	..	..	..	..	..
7. Other Departments	2	1	1	..	..	..	..	..	..	1
8. TOTAL—										
1938-39	14	1	6	1	6	..	..	..	..	13
1937-38	15	2	8	2	3	..	..	..	..	13
9. Percentage of Europeans to number of vacancies filled—										
1938-39	7·14	..	..	..	..	..	..	..	..	..
1937-38	13·3	..	..	..	..	..	..	..	..	..
10. Percentage of Indians to number of vacancies filled—										
1938-39	92·9	..	..	..	..	..	..	..	..	..
1937-38	86·7	..	..	..	..	..	..	..	..	..
Bombay, Baroda and Central India Railway.										
1. Agency	1	1	..	..	..	..	..	..	..	..
2. Accounts	..	..	..	..	..	..	..	..	..	..
3. Engineering	5	..	..	5	..	..	..	..	..	5
4. Transportation and Commercial	4	1	2	1	..	..	..	..	..	3
5. Mechanical	4	..	2	1	1	..	..	..	..	4
6. Stores	..	..	..	..	..	..	..	..	..	..
7. Other Departments	..	..	..	..	..	..	..	..	..	..
8. TOTAL—										
1938-39	14	2	4	7	1	..	..	..	..	12
1937-38	8	3	2	..	..	..	1	1	1	5
9. Percentage of Europeans to number of vacancies filled—										
1938-39	14·3	..	..	..	..	..	..	..	..	..
1937-38	37·5	..	..	..	..	..	..	..	..	..
10. Percentage of Indians to number of vacancies filled—										
1938-39	85·7	..	..	..	..	..	..	..	..	..
1937-38	62·5	..	..	..	..	..	..	..	..	..

APPENDIX G-I—*concld.*

Statement showing the number of appointments made to the Superior Services on State Railways and of corresponding rank on Companies' Railways (Class I) excluding H. E. H. the Nizam's State, Jodhpur and Mysore State Railways during 1938-39—concld.

Departments.	No. of vacancies actually filled.	FILLED BY								
		Europeans.	INDIANS.							
			Hindus.	Muslims.	Anglo-Indians and Domiciled Europeans.	Sikhs.	Indian Christians.	Parsis.	Other classes.	Total.
1	2	3	4	5	6	7	8	9	10	11
** Madras and Southern Mahratta Railway.*										
1. Agency	..	..	..	..	..	..	..	..	..	..
2. Accounts	..	..	..	..	..	..	..	..	..	..
3. Engineering	3	1	1	..	..	..	..	1	..	2
4. Transportation and Commercial	5	..	3	..	1	..	1	..	..	5
5. Mechanical	2	..	1	..	1	..	..	..	..	2
6. Stores	..	..	..	..	..	..	..	..	..	..
7. Other Departments	..	..	..	..	..	..	..	..	..	..
8. TOTAL— 1938-39	10	1	5	..	2	..	1	1	..	9
1937-38	16	2	8	3	2	..	1	..	..	14
9. Percentage of Europeans to number of vacancies filled— 1938-39	10·0	..	..	..	..	..	..	..	..	..
1937-38	12·5	..	..	..	..	..	..	..	..	..
10. Percentage of Indians to number of vacancies filled— 1938-39	90·0	..	..	..	..	..	..	..	..	..
1937-38	87.5	..	..	..	..	..	..	..	..	..
Rohilkund and Kumaon Railway.										
1. Agency	..	..	..	..	..	..	..	..	..	..
2. Accounts	..	..	..	..	..	..	..	..	..	..
3. Engineering	..	..	..	..	..	..	..	..	..	..
4. Transportation and Commercial	..	..	..	..	..	..	..	..	..	..
5. Mechanical	..	..	..	..	..	..	..	..	..	..
6. Stores	..	..	..	..	..	..	..	..	..	..
7. Other Departments	..	..	..	..	..	..	..	..	..	..
8. TOTAL— 1938-39	..	..	..	..	..	..	..	..	..	..
1937-38	1	..	1	..	..	..	..	..	..	1
9. Percentage of Europeans to number of vacancies filled— 1938-39	0·00	..	..	..	..	..	..	..	..	..
1937-38	0·00	..	..	..	..	..	..	..	..	..
10. Percentage of Indians to number of vacancies filled— 1938-39	0·00	..	..	..	..	..	..	..	..	..
1937-38	100·0	..	..	..	..	..	..	..	..	..
South Indian Railway.										
1. Agency	..	..	..	..	..	..	..	..	..	..
2. Accounts	1	1	..	..	..	..	..	..	..	..
3. Engineering	2	..	2	..	..	..	..	..	..	2
4. Transportation and Commercial	4	..	3	..	1	..	..	..	..	4
5. Mechanical	2	..	2	..	..	..	..	..	..	2
6. Stores	1	..	1	..	..	..	..	..	..	1
7. Other Departments	..	..	..	..	..	..	..	..	..	..
8. TOTAL— 1938-39	10	1	8	..	1	..	..	..	..	9
1937-38	11	..	5	2	3	..	1	..	..	11
9. Percentage of Europeans to number of vacancies filled— 1938-39	10·0	..	..	..	..	..	..	..	..	..
1937-38	0·00	..	..	..	..	..	..	..	..	..
10. Percentage of Indians to number of vacancies filled— 1938-39	90·0	..	..	..	..	..	..	..	..	..
1937-38	100·0	..	..	..	..	..	..	..	..	..

* Officer candidates who were originally treated as subordinates and whom it has recently been decided to treat as officers, have been included.

APPENDIX G-II.

Statement showing the number of vacancies filled by direct recruitment in the Subordinate Railway Services during the period 1st April 1938 to 31st March 1939.

Name of Service, etc.	Europeans.		Hindus. Hindus other than Depressed Classes.		Hindus. Depressed Classes.		Minority communities recognised for the purpose of communal representation. Muslims.		Domiciled Europeans and Anglo-Indians.		Sikhs.		Indian Christians.		Parsis.		Other communities.		Total.
	No.	Percentage	No.	Percentage	No.	Percentage	No.	Percentage	No.	Percentage	No.	Percentage	No.	Percentage	No.	Percentage	No.	Percentage	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
(i) PERMANENT.																			
I.—Railways—																			
State-managed—																			
Eastern Bengal . . .	..	..	174	45·8	5	1·3	182	47·9	13	3·4	1	0·3	5	1·3	..	..	..	..	380
East Indian	..	..	237	59·4	..	..	99	24·8	54	13·5	5	1·3	4	1·0	..	..	..	..	399
Great Indian Peninsula . .	..	..	227	67·2	3	0·9	42	12·4	37	10·9	2	0·6	19	5·6	7	2·1	1	0·3	338
North Western . . .	3	0·5	158	25·1	..	..	373	59·2	31	4·9	55	8·7	10	1·6	..	..	..	..	630
Company-managed—																			
Assam Bengal . . .	..		74	44·6	15	9·1	54	32·5	5	3·0	3	1·8	11	6·6	..	..	4	2·4	166
Bengal and North-Western .	3	2·2	81	60·0	2	1·5	37	27·4	10	7·4	..	..	2	1·5	..	..	..	..	135
Bengal Nagpur . . .	..	..	242	61·5	..	..	53	13·4	79	20·2	8	2·1	9	2·2	2	0·5	..	..	393
Bombay, Baroda and Central India.	2	0·4	331	63·8	7	1·4	54	10·4	42	8·0	1	0·2	46	8·8	22	4·3	14	2·7	519
Madras and Southern Mahratta	2	0·8	160	61·5	4	1·5	21	8·1	60	23·1	..	..	12	4·6	..	..	1	0·4	260
Rohilkund and Kumaon .	..	..	25	60·9	..	..	11	26·8	3	7·3	1	2·5	1	2·5	..	..	..	..	41
South Indian . . .	..	..	134	61·2	8	3·7	20	9·1	29	13·2	..	..	28	12·8	..	..	..	..	219
II.—Miscellaneous Offices—																			
Chief Mining Engineer . .	..	..	2	66·7	..	..	1	33·3	..	..	..	..	..	..	..	..	..	..	3
Central Publicity . . .	..	..	..	.	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Government Inspectors of Railways.	..	..	..	..	..	..	1	10·0	..	..	..	..	..	..	..	.	..	..	1
Director, Railway Clearing Accounts.	..	..	24	80·0	..	..	4	13·3	..	..	2	6·7	..	..	..	..	..	..	30
Controller of Railway Accounts	..	..	1	100·0	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1
TOTAL .	10	0·3	1,870	53·2	44	1·2	952	27·1	363	10·3	78	2·2	147	4·2	31	0·9	20	0·6	3,515

APPENDIX G-II.

Statement showing the number of vacancies filled by direct recruitment in the Subordinate Railway Services during the period 1st April 1938 to 31st March 1939.

Name of Service, etc.	Europeans.		Hindus. Hindus other than Depressed Classes.		Hindus. Depressed Classes.		Minority communities recognised for the purpose of communal representation. Muslims.		Domiciled Europeans and Anglo-Indians.		Sikhs.		Indian Christians.		Parsis.		Other communities.		Total.
	No.	Percentage	No.	Percentage	No.	Percentage	No.	Percentage	No.	Percentage	No.	Percentage	No.	Percentage	No.	Percentage	No.	Percentage	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
								(ii) TEMPORARY.											
I.—Railways—																			
State-managed—																			
Eastern Bengal . . .	..	..	623	47·2	3	0·2	605	45·8	82	6·2	1	0·1	4	0·3	..	..	2	0·2	1,320
East Indian	..	..	1,120	66·6	..	..	386	22·9	146	8·7	8	0·5	21	1·3	..	..	..	..	1,681
Great Indian Peninsula . .	..	..	194	67·6	3	1·0	28	9·8	9	3·1	..	..	47	16·4	5	1·7	1	0·4	287
North Western . . .	..	..	325	25·2	..	..	788	61·1	38	3·0	120	9·3	18	1·4	..	..	..	..	1,289
Company-managed—																			
Assam Bengal . . .	..	..	67	71·2	1	1·1	22	23·4	2	2·1	1	1·1	1	1·1	..	..	..	..	94
Bengal and North-Western .	..	..	81	75·0	1	0·9	24	22·2	..	..	1	0·9	1	0·9	..	..	..	..	108
Bengal Nagpur . . .	..	..	347	62·3	5	0·8	75	13·4	101	18·2	5	0·8	24	4·4	..	..	..	..	557
Bombay, Baroda and Central India.	..	..	641	80·5	1	0·1	104	13·1	12	1·5	5	0·6	18	2·3	12	1·5	3	0·4	796
Madras and Southern Mahratta	..	..	47	73·4	1	1·6	3	4·7	3	4·7	..	..	9	14·0	..	..	1	1·6	64
Rohilkund and Kumaon .	..	..	19	76·0	..	..	5	20·0	..	..	..	..	1	4·0	..	..	..	..	25
South Indian . . .	..	..	236	74·9	3	1·0	16	5·1	6	1·9	..	..	54	17·1	..	..	..	..	315
II.—Miscellaneous Offices—																			
Chief Mining Engineer . .	..	..	3	100·0	..	..	..	..	..	..	..	..	..	..	..	..	..	..	3
Central Publicity . . .	..	..	1	50·0	..	..	1	50·0	..	..	..	..	..	..	..	..	..	..	2
Government Inspectors of Railways.	..	..	2	10·0	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2
Director, Railway Clearing Accounts.	..	..	29	54·7	1	1·9	17	32·1	..	..	5	9·4	1	1·9	..	..	..	..	53
Controller of Railway Accounts	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Total .	..	..	3,735	56·6	19	0·3	2,074	31·4	399	6·1	146	2·2	199	3·0	17	0·3	7	0·1	6,596
Grand Total (Both permanent and temporary).	10	0·1	5,605	55·4	63	0·6	3,026	29·9	762	7·6	224	2·2	346	3·4	48	0·5	27	0·3	10,111

APPENDIX H.

Office of the Railway Department (Railway Board) and attached offices on 31st March 1939.

The Hon'ble Sir Thomas Stewart, K.C.I.E., C.S.I., I.C.S., Member of Council of the Governor General.

Railway Board.

The Hon'ble Sir Guthrie Russell, K.C.I.E.	Chief Commissioner of Railways.
Mr. B. M. Staig, C.S.I., I.C.S.	Financial Commissioner of Railways.
Mr. A. E. Tylden Pattenson	Member (Temporary).
Mr. Frank D'Souza, C.I.E.	Member (*Offg.*).
Mr. T. S. Sankara, C.I.E.	Director, Finance.
Mr. E. Ingoldby, A.M.I.C.E., M.I.L.E.	Director, Mechanical Engineering.
Khan Bahadur Muzaffar Hussain	Director, Establishment.
Mr. S. E. L. West, O.B.E., V.D.	Director, Traffic (*Offg.*).
Mr. L. H. Swain	Director, Civil Engineering (*Offg.*).
Mr. A. C. Griffin, O.B.E.	Secretary.
Khan Bahadur Z. H. Khan	Deputy Director, Establishment (I).
Mr. Yaqub Shah	Deputy Director, Finance.
Mr. J. D. Michael	Deputy Director, Establishment (II) (Temporary).
Mr. H. M. Jagtiani	Deputy Director, Traffic (Commercial).
Mr. J. W. C. Holt	Deputy Director, Traffic (Transportation) (Temporary).
Mr. R. C. Paranjoti, B.A., B.E., B.Sc. (Lond.), A.M.I.L.E.	Deputy Director, Mechanical Engineering.
Khan Bahadur K. Ubaidullah	Assistant Director, Finance (Temporary).
Mr. E. C. Rundlett	Assistant Secretary.

Attached Officers.

Mr. W. E. Flewett, B.A., I.F.S.	Joint Timber Advisory Officer, Railway and Defence Departments.
Mr. K. C. Srinivasan	Officer on Special Duty with the Railway Board.
Mr. R. C. Case	Officer on Special Duty with the Railway Board.

Attached Offices.

Central Standards Office.

Mr. J. M. D. Wrench, C.I.E.	Chief Controller of Standardization.
Mr. W. Hood	Deputy Chief Controller (Civil).
Mr. R. G. Burt	Officer on Special Duty.
Mr. W. Douglas Thomson	Assistant Chief Controller (Civil).
Mr. F. M. G. Wheeler	Assistant Chief Controller (Mechanical).
Mr. P. S. Venkata Raman	Assistant Chief Controller (Specifications and Records).

Central Publicity Bureau.

Mr. G. T. Tait, B.Sc.	Central Publicity Officer, Indian State Railways.
Mr. P. W. Sullivan	Assistant Publicity Officer, Indian State Railways.

Overseas Bureau.

Mr. W. T. Griffiths	Manager, Indian Railway Bureau, London.

Office of the Controller of Railway Accounts.

Mr. V. S. Sundaram	Controller of Railway Accounts.
Mr. R. V. Ramchandani . . .	Deputy Controller of Railway Accounts.
Mr. R. S. Rajam	Assistant Accounts Officer.

MGIPC—L—X-23(PD)—I-2-40—1,000.